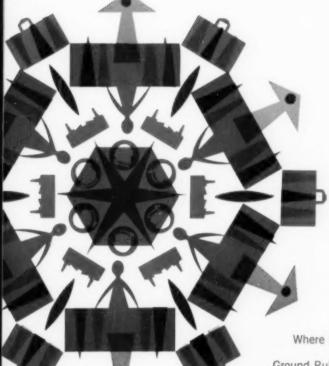
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MANAGEMENT REVIEW

OCTOBER 1961



Where Recruiting Ads Go Wrong Ground Rules for Using Committees

ARE THEY READY FOR CHANGE?

Gaining Support for New Policies and Methods

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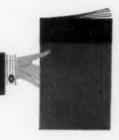
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IN THIS ISSUE



- Planning for Change. People do tend to resist change, but management sometimes fails to realize that they may actually welcome it once they understand what the change is all about and if the facts make sense to them. In this month's opening feature, NATHANIEL STEWART offers some workable guides for getting people to meet changes at least half-way.
- Help Wanted. As a result of the competition for qualified engineers, scientists, and other professionals, the recruitment techniques used by progressive companies have become complex and sophisticated—especially recruitment advertising. In his article on page 26, ARNOLD DEUTSCH tells how a company can make its own recruiting ads more effective, giving examples of ads that pull and others that look equally attractive and sensible at first glance but can almost be guaranteed to leave potential applicants cold.
- All in Favor? The use of committees in management has been widely (and often justifiably) criticized, but they do have valid functions. On page 63, CYRIL O'DONNELL's guide to the proper use of committees delineates the areas in which they serve a legitimate purpose—areas in which they can do a better job than a single manager.
- Long After Aesop. A group of updated fables (see page 45) for today's manager.

- the Editors

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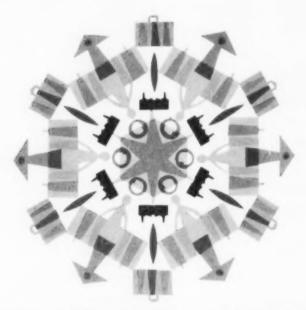
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Are They Ready for Change?

Gaining Support for New Policies and Methods

Nathaniel Stewart

Director, Management Development Center International Cooperation Administration

THERE IS A DISTINCTION between making an organizational change and managing an organizational change—and it is precisely this difference that puts a manager to the test.

So much has been written about employee resistance to change that we are sometimes tempted to forget that there is another side to the coin. It is true, of course, that people tend to resist change; both psychological evidence and practical experience confirm this fact. But it is equally true that people may also react favorably to change—indeed, that they may welcome the prospect—if they understand what

A MANAGEMENT REVIEW SPECIAL FEATURE

it is all about and are prepared for it in advance. The favorable reaction to "something new, something good" carries through from childhood—even into the business or industrial setting.

The Status Quo

Basically, employees prefer to stay with the status quo, for in the existing setting they feel stable, secure, and comfortable. Habit and apathy also influence them to prefer the present situation, even with its weaknesses and imperfections.

Change means dislocation, instability, anxiety, and some degree of threat, and employees would rather stay with the known than risk the uncertainty of the unknown.

This tendency can be overcome to a considerable extent when a certain set of conditions is built into the change. These conditions include an awareness that the change is valid and recognition that there is need for a change; they involve tapping the views of those who will be affected by the change, being candid about the immediate and long-range effects of the change, communicating plans for the change to relieve employee anxiety and tension, maximizing the probability of the success of the change, and capitalizing on the kind of changes that carry mutual gain for both the enterprise and the individual employee.

Management must generate a prevailing attitude that in a business enterprise change is normal, not abnormal; objective, not arbitrary; energizing, not threatening; and constructive, not destructive.

Sound management is characterized by readiness and ability to effect an orderly transition when a change is indicated. Naturally, the decision to make a change of major proportions should be based on real and compelling reasons; there is no excuse for inaugurating a change that is designed to further the personal interests of business bureaucrats, or for any other reason than that it is genuinely directed toward improving business performance. There is a tendency in some companies to become "reorganization happy"-to make unnecessary changes too frequently, often under the pressure of "crisis" or "emergency." The work force of such a company is sensitive to these situations, and they understandably conclude that changes are being made on the basis of whim and personal inclination, rather than as a result of study and deliberation. When this happens, employees consider management erratic and unreliable, and their resistance to any change is strengthened.

Kinds and Varieties

Even when a change is desirable or necessary, there is more than meets the eye to putting it into effect. The impact of a change on the people involved will depend on many factors. Here are some of the most important ones:

- What kind of change is involved? Is it a policy change? A systems change? A procedural change? A personnel change? An operational change? A change that shatters tradition or precedent in the organization may engender more resistance than the change itself would justify, simply because employees fear that it foreshadows other changes that will prove harmful to them.
- How much change is involved?
 A minor modification of a single unit?
 A complete overhauling or liquidation of a division?
- Where will the change be felt?
 In the middle-management ranks, where status is affected deeply? In the lower supervisory levels, where minor housekeeping or inspection changes will have less effect? Among the rank-and-file employees themselves?
- When will the change occur, and how will it be paced? Will it be a deliberate, well-phased, transitional change? Or will it be a quick and radical alteration?

These considerations, and others that will occur to any experienced management, indicate the need for a good deal of study and analysis before the decision to make a change is reached.

Responsibility for endorsing and authorizing an organizational change ranks high among an executive's decision-making responsibilities. The man who has this responsibility must guard against abdicating all or part of it to others, but he must also be open-minded and receptive to ideas for changes that hold promise for the corporate good.

Implementing Change

When there is an honest difference of opinion among managers about the advisability of a change, and when the change is finally decided upon, the motivation and morale of those who opposed it can be seriously affected. Effective appraisal, coaching, and counseling of the men in the management chain can do much to turn passive acceptance into constructive team effort. There is a better prospect of achieving a meeting of minds on the acceptance of change when the discussion centers around values and principles, rather than on details and the effects on various individuals. When a strong case for the values and principles behind the change has been made, problems of details and personalities can be ironed out more easily.

One important kev to the successful implementation of change is an understanding of the company's formal and informal organizations—and the ability to integrate the two as much as possible. Cliques and alliances within the company often take a position, pro or con, in regard to proposed change. Here the effectiveness of the manager is put to the test, for his own attitude and his capacity for discussion, criticism, communication, and con-

sultation are vital in modifying the stand of groups that are opposed to the change and in winning acceptance for the plan.

The Second Front

When there is reason to believe that a change should be made, the problem should be approached on two fronts: the logical and the psychological. It is a common error to lose sight of the psychological factors involved, and it is here that many managements invite trouble. Human relations are often jeopardized—not because of the change itself, but because the people involved feel that they are being ma-

neuvered, manipulated, or pressured into the change, or because they have no opportunity to express their doubts or feelings about whether the change really represents an improvement, or because their security is being threatened or their chances for promotion limited, or because the social relationships of the work group are being disturbed or dislocated, or for other compelling reasons. Whether these factors are real or imagined, this kind of atmosphere breeds resistance to change.

It is vital, then, that the psychological factors involved in change be given as much attention as the logical factors if the change is to be



effected satisfactorily. Although the sections below present the logical and psychological approaches to change separately, it should be remembered that they are not really separate sequences; there is an interplay between the two, and the manager must be aware of this interplay and exploit it wisely as he proceeds.

The Logical Approach

The first requirement of the logical approach to change is an understanding of the company's philosophy, goals, and objectives, and familiarity with the guiding policies pertaining to organizational change, work simplification, job modification, and related areas. With this as a base, the process of preparing for change proceeds in this sequence:

- 1. Examine the situation carefully to learn precisely what is wrong and what the consequences are. Proceed in terms of fact and confirmation, not hearsay and speculation.
- 2. Determine whether the problem is due to some thing or to some person, or both, after a full analysis. If some person is at fault, don't alter the entire set-up to try to correct the situation. Compromise with this principle only if there is a compelling reason to do so.
- Consider the situation carefully, and discuss it with others on whom you can rely, to determine whether it can be corrected by some

minor and possibly informal arrangement or whether a formal and definite change is warranted.

- 4. If change seems necessary, tap the brainpower of both line and staff people to bring into focus the possible courses of action—to modify, to substitute slightly, to displace, or to liquidate—and discuss the relative merits of each. If it is required or desirable, speak also with union representatives.
- 5. Select the one course of action deemed best in this instance. Be sure that the following points have been considered:
 - a. The advantages should considerably outweigh the disadvantages.
 - It should come within the framework of company policy and not conflict with existing policy.
 - Other managers or supervisors with appropriate jurisdiction should be consulted.
 - d. In general, it should be a manageable change and one that compromises neither ethics nor standards of performance.
- 6. Consider the impact that this change may have on other systems, procedures, or operations, both within the work unit affected and outside the unit, and map the strategy for meeting this kind of chain reaction.
- 7. Get the concurrence of appropriate executives to the proposed course of action and the proposed

strategy for putting the change into effect.

8. Devise the feasibility study and timetable for the trial run or pilot effort, if any, the phases or stages, and the final installation. Be sure to educate the managerial and nonmanagerial personnel who will be affected about the why, what, how, and when of the change.

9. Install the change.

10. Use the necessary formal or informal means to assess or evaluate the before-and-after picture. Make whatever modifications are needed to get the bugs out of the new system.

11. Codify the change in the organizational manual, charts, procedures manual, and other appropriate sources. Take into consideration all the alterations and refinements that have resulted: m. Lified objectives, personnel changes, adjusted job descriptions, work requirements, altered standards of performance, etc. Be sure they are clearly expressed.

Finally, reaffirm the responsibilities of those affiliated with the function and its performance.

The Psychological Approach

In addition to this reasoned approach, and simultaneous with it, management should also be following the psychological approach that will help insure the best possible acceptance of the change with a minimum of resistance. Naturally, the measures taken and the degree

of emphasis will vary with the nature of the change involved, but the following guidelines can be considered a common denominator for most changes.

1. Gain agreement or a vote of confidence that there is a real problem involved—one that is in need of correction or improvement. Be sure that the problem is clearly identified as one that hampers employee or organizational effectiveness. Once employees are convinced that the problem is real and that there is need for a solution to it, they are with you on the road toward a solution. This is the important psychological springboard.

2. Disseminate advance word to inform people that there is to be consideration of a change that will affect them. The shock of unannounced change can seriously affect morale; get the word out officially before the grapevine beats you to it.

3. Designate those who will participate in considering the change, on the basis of their official role in the company, the expected quality of their contribution, or both. Participation, involvement, and recognition can do much to promote morale and win acceptance of change.

4. Single out the real leader in the informal organization of the unit, and work through him to gain the acceptance of the alliance or clique involved. This leader ... ay be the nominal head of the group, or he may have status and influence by

virtue of seniority, special technical excellence, personality, affiliations, or some other reason. To win his support will expedite the effectiveness of the change; to lose it will often mean increased resistance, sabotage of the new change, and failure to obtain the performance necessary to test the value of the change.

5. Cite testimonials to demonstrate the values derived from a similar change elsewhere in the company or in another well-known organization. Identification with success and desire to rise above a competitor are psychological factors that can gain strong support for the company's objectives.

6. With the people affected, discuss the advantages to be derived from the change. Acknowledge that there are pros and cons, but point up reduction of workload pressures, removal of supervisory strain, increased safety, greater financial incentives, better location, greater opportunity for individual growth and development in the organization, or any other expected advantages. When you can personalize the change by showing how it will serve the needs and satisfactions of the individual, he will see that there is no conflict between his gain and the company's gain.

7. At the meeting during which proposed change is initially presented, be sure that the presentation is made by a person generally acceptable to those in the informal or-

ganization-acceptable by virtue of his position or rank, age, personality, technical leadership, reputation as a manager, articulateness, poise, and manner. Selection of the wrong person for this job can create resistance to the change, whatever its merits. Some act of indiscretion. rudeness, or intolerance; reference to authority or discipline; communicating over the heads of his listeners; inability to answer questions intelligently-these and other shortcomings can alienate the group; since they identify the speaker with the idea, antagonism toward him will make the idea unacceptable to them.

8. Through a memorandum, graphic sketch, draft, or other appropriate form, commit the proposed change to writing and invite comments and suggestions from the key people involved. This will do much to dispel any belief that the change was "all sewed up" from the very beginning.

9. Appeal to the open-mindedness of the people affected by suggesting an experimental period of operation under the changed policy or procedure. People are usually quick to acknowledge their sense of fair play, their willingness to give something a try, their open-mindedness to experimentation, and their satisfaction in helping to introduce an innovation. Capitalize on this, for the experimental period can be a useful bridge between the planning and the final installation.

10. Avoid stating the proposal in a way that gives the impression that it is unduly restrictive. Restraint breeds resentment and resistance. Hold off on "controls" and evidence of expectation of results—at least for a while. People should not feel that they are being monitored or policed while they are in the process of making technical, organizational, social, or performance adjustments.

Observe, make mental notes, and discuss what is taking place, but be wary of imposing formal controls too quickly.

11. Allow time for adjustments—organizational, technical, and human. It takes time to develop new skills, depart from old habits and settings, establish new relationships, or even to reorient oneself to familiar situations with a new twist.



"Last year's Christmas bonus was about this size."

- 12. Obtain top management's green light for the final installation. Top management must be reassured that you have taken both logical and psychological aspects into consideration to prevent a flurry of grievances, protests, requests for hearings, and threats of resignation.
- 13. Recognize that there may be one or two rebels who will not accept the change after it has been accepted by the others. If they continue to run counter to the best interests of the company after a warning, it is time for straightforward and firm counseling—and, if this fails, disciplinary measures may have to be invoked. Remember that this kind of intransigent resistance does not always indicate opposition to the change itself, but may be a reflection of other problems or discontents.
- 14. Instruct supervisors to be on the alert in reporting not only unsatisfactory technical performance but also open or subtle evidence of lingering resistance. Human relations on the firing line is the real test of acceptance of the change; the supervisor is in a strategic position to educate his personnel, foster the change, and report circumstances beyond his control to his superior.
- 15. Give as much credit as possible to the line people affected by the change, even to the point of acknowledging that this was principally *their* change, and that they are to be credited with its successful introduction.

When the problems of effecting organization change are approached on these two fronts—the logical and the psychological—the resistance of employees is no longer an insurmountable barrier.

On the contrary, in many cases employees who would have resisted what seemed to them an arbitrary and threatening change become its best advocates when they understand the reasons for the change and are convinced of its benefits—not only to the company as a whole, but to them individually.

Management and Change

Effective managers know that it is worth the effort to see to it that desirable changes are instituted smoothly, with minimal disruption to morale and productivity. Generally speaking, someone is likely to be hurt by the change—probably in the short run. The object is to see to it that the change is not too harmful to morale and to make it clear that, in the long run, the damage will be compensated for by other gains.

The successful management of change tends to produce a healthy climate for undertaking other changes, just as innovation tends to foster more innovation. With the continuing squeeze on profit margins, the effective management of change has great potential for a company seeking to improve its competitive position in the business world.



Why Companies

Move Back to Town

By Laurence G. O'Donnell

Condensed from The Wall Street Journal

NE LARGE manufacturing company recently vacated the nineteen-acre suburban tract of rolling lawns, rock gardens, and pleasant trees it has called home for the past five years. The company's new base: leased space in a 21-story office building on busy Third Avenue in New York City, where trucks and cars fill the air with exhaust fumes and great swarms of people battle their way into steamy, crowded subways and commuter trains.

"We found we were missing something," says an official of the company, explaining why the firm has returned to New York after a stay in the suburbs. Company executives had increasingly begun to feel they were "losing touch," particularly in the marketing area, as a result of their separation from New York's market-research firms, ad agencies, and international banks.

Bucking a Trend

In its move, the company has bucked a continuing trend of corporate migration from big-city congestion. For that reason, notes one authority on relocation, other concerns are watching the results of the move very closely: "Now some people realize that life in the suburbs isn't always so rosy." An official of the U.S. Chamber of

The Wall Street Journal (August 2, 1961), @ 1961 by Dow Jones & Company, Inc.

Commerce agrees: "Moving out isn't considered quite as much the thing to do now. The case for moving back in is getting stronger as the redevelopment of cities gets going."

Many firms that have left the city in recent years have had second thoughts about it. According to one executive who's had his fill of the outlands, executives miss the "clash of wits" that flows from daily personal contact with suppliers, customers, and competitors; "intellectual incest" sets in when executives of the same firm exchange ideas only with each other. "The company becomes an entity unto itself," he says. "People become more interested in status, or the next notch up the ladder, rather than what's going on outside."

Problems of Relocation

Relocation of executives and other headquarters staffers is one of the biggest problems of a move to the suburbs. Even though companies often make generous allowances for expenses included in moving (\$2000 to \$2500 a person was one company's average payment), hardships still are frequent. One executive involved in his company's move from Manhattan to Connecticut sold his New Jersey home for \$27,000 and ended up paying \$34,000 for a "slightly better" house in West Hartford.

One New York market-research firm surveyed headquarters person-

nel in the \$6000 to \$15,000 annual-income bracket who relocated in Westchester County during the 1950's when their employers set up headquarters there. The survey indicated high living costs were the employees' primary complaint about that Manhattan suburb. Of those polled, 92 per cent paid more for their new homes; 65 per cent paid over \$5000 more.

Reverse Commuting

Headquarters personnel preferring not to leave the city raise another corporate and personal problem: reverse commuting. One company, which moved from Manhattan to White Plains seven years ago, still runs two buses a day to the railroad station to pick up reverse commuters. Another firm, which placed its headquarters in a Minneapolis suburb a few years ago, now operates 8:30-to-4:30, instead of 8-to-5, to accommodate commuters (mostly by auto) from the city; the company partly offsets the time loss by allowing only 45 minutes for lunch instead of an hour. Time, Inc., did "a lot of study on reverse commuting" before scrapping plans for a suburban head office. The magazine's problem: Many of its editors were "confirmed urbanites." The solution: A 48-story skyscraper home in Manhattan.

Prestige and the advertising value of a do entown office building provide another anti-suburb argument. In establishing its five regional head-

quarters, Prudential Life Insurance Co. deliberately tried to place each in a well-situated spot downtown. Prudential is especially happy with its 41-story Chicago building; the insurance company leased the tower to a local television station, with a provision that a picture of the building be shown on station breaks and that the broadcast be identified as coming "from the top of the Prudential Building in Chicago."

Suburbia: No Solution

Space problems are a chief complaint about cities, but many firms have discovered that a suburban headquarters isn't always the solution. Phoenix Mutual Life Insurance Co. was considering setting up a suburban headquarters in West Hartford, Conn., as its answer to crowded quarters in downtown Hartford. But after a survey by an engineering firm, it decided to build a new fifteen-story headquarters in town. In the suburbs, the company would have found few tenants for excess space built into the headquarters to allow for future expansion. "Downtown, however, we can rent the excess space at going rentals so that it will pay its own way until we have expanded into it," reports a Phoenix official.

The expectation that a company's total operating costs will be trimmed by a country headquarters has been shattered by the experience of many companies. The savings they expect from lower taxes, more efficient use

of space, cheaper land and construction costs, and tighter control over operating expenses are frequently offset by other unanticipated expenses. "Because everyone drives to work, we had to put in a large parking area. This upped our square-footage costs," says an executive of a large chemical firm that recently moved part of its head-quarters to the suburbs.

Other costs encountered by other firms include: headquarters cafeterias (most operate at a loss to the company); landscaping (one firm spends \$100,000 on this alone); subsidized buses (one company spends \$75 a person a year to get employees from town to its suburban site); and company cars, station wagons, and limousines to get executives and guests of the company to and from downtown business districts.

Unwelcome Neighbors

To cap it all, some firms that decided to move to the suburbs have discovered that the townspeople didn't want them as neighbors. One life insurance company had optioned land for a headquarters in New Rochelle, a suburb of New York City, but ran into so much opposition from a taxpayers' group ("They wanted us in New Rochelle," says a company attorney, "but not near them") that the company dropped its option and is now doubling the size of its Manhattan headquarters.

THE DEFENSE MARKET: I

What the Government Will Buy in 1962

Condensed from MAPI Bulletin

T HIS SUMMER, in response to the Berlin situation and the President's request for an immediate defense buildup, Congress approved a revised defense-appropriation bill for fiscal year 1962 of 46.7 billion dollars. This is the largest peacetime defense appropriation in history, and it indicates a large and rapid acceleration in spending for procurement of military end items, equipment, components, and research and development.

Anticipated Expenditures

The Fiscal Analysis Division of the Comptroller's office at the Pentagon estimates that actual expenditures for "major procurement and production" will total over 16.1 billion dollars during the current fiscal year (ending June 30, 1962)—over 1.2 billions more than the amount spent in the fiscal year that ended June 30, 1961. The principal categories on which the 16.1 billion dollars will be spent are, in rounded figures: aircraft—6.5 billion dollars; missiles—4.4 billions; ships—1.9 billions; ordnance, vehicles and related equipment—1.5 billions; electronics and communications—1.2 billions; and other equipment—611 millions.

The President's answer to the Berlin situation appears to complete a transformation of national defense policy from primary reliance on atomic weapons to emphasis on flexibility designed to meet any

MAPI Bulletin 3740 (August 11, 1961), Machine and Allied Products Institute

type of limited or all-out warfare. The new policy stresses the expansion of ground forces, with accompanying modernization of weapons and general-support equipment and the increased procurement of tactical manned aircraft and both air and sea transport.

Defense Objectives

In attempting to achieve a flexible military posture, President Kennedy and Secretary of Defense McNamara have enumerated the following programs as necessary and immediate objectives:

- A substantial increase in Army and Marine ground forces, with existing divisions being brought to full strength as promptly as possible. An over-all increase in activeduty military personnel of 225,000, to a total of over 2.7 million.
- Correspondingly increased procurement of new light weapons, ammunition, tanks, trucks, and other combat and logistical support equipment.
- Rapid expansion of present capacity to transport men and equipment, including reactivation of a number of ships now in the fleet reserve.
- Increased production of conventional manned aircraft, particularly types providing tactical cover for ground forces. Continuation of B-52 and B-58 bomber production and continuance in service of B-47 bomber units previously scheduled for deactivation.

- Expansion of the antisubmarine-warfare program.
- Transfer of certain civil-defense functions to the Department of Defense, plus a fourfold increase in civil-defense appropriations.

Procurement Plans

While precise figures on the planned procurement of defense equipment are not available, certain reasonable deductions can be drawn from data excerpted from official legislative reports and hearings. Some of the product lines likely to share in new orders from defense procurement are:

Machine tools. The various procurement accounts authorize funds for facilities and equipment necessary to insure production of military end items. The major increase in procurement of production-line ordnance items and motor vehicles should result in some new machinetool orders not previously anticipated.

Materials handling equipment. Sharing in the increased equipment appropriation for the Army is an unspecified amount of materials-handling equipment. In the "Other Procurement, Navy" account there is specific reference to "replacement of over-age materials-handling equipment." It is also possible that new orders for conveying equipment will flow from ordnance manufacturers, who will receive substantial new orders for munitions, as well as from military arsenals, which

will be handling larger stocks of munitions.

Trucks and other motor vehicles. There is a dramatic increase in immediate funds to improve the mobility of the ground forces. Specified for procurement are 70,000 combat, support, and general-purpose vehicles, including tanks, armored personnel carriers, diesel-powered trucks, and vehicle bases for self-propelled artillery.

Textile machinery. The substantial increase in ground forces will mean increased procurement of textile products for uniforms, tents, and various other cloth items required by fully-equipped ground units. This new business for textile manufacturers may stimulate the placing of new orders for textile machinery and spare parts.

Ground-support equipment. One of the steps being taken to improve our defense posture is to increase from one-third to one-half the proportion of bomber wings of the Strategic Air Command to be on fifteenminute ground alert. This development, plus a previously scheduled increase of missiles in place at missile bases, will result in more orders for various types of ground-support

equipment—affecting a wide range of capital-goods and allied equipment manufacturers.

Electronics and communications equipment. Over-all funds for electronics and communications equipment will be increased by one-third for 1962. This includes a new series of tactical radios for the Army, electrical and communications systems for ships and aircraft, detection systems, tactical data-processing systems, and guidance systems for missiles.

Construction equipment. Equipment to be procured by the Army includes construction equipment; the Marine Corps account specifies acquisition of such items as bull-dozers, cranes, and other engineering equipment.

Components and spare parts. The increase in procurement expenditures should mean defense orders of component manufacturers for such items as hydraulics, motors, gears, pumps, bearings, valves, etc. There should be new spare-parts business from at least two programs—the continuance in service of B-47 wings and the activation and conversion of a number of naval vessels presently in mothballs.



THE DEFENSE MARKET: II

What You Must Know to Compete

By Jeanne E. Larson and William D. Stevens

Condensed from Industrial Marketing

DEFENSE MARKETING differs significantly in many important respects from either consumer or industrial marketing. The defense market is now considered a third major market, with its own techniques and methods.

Just as industrial goods are differentiated from consumer goods by their consumers, by the purpose for which they are bought, and by the methods of marketing them, so defense goods are differentiated. The government (not individuals) uses defense products on military or aerospace operations; they are not used for the industrial production of other goods; and the marketing methods are at variance with both fields.

For instance, level of price has little to do with a unit's salability (providing the agency can get sufficient funds for the project), although relative price does if there is more than one bidder capable of developing the unit. Also, unlike consumer and some industrial marketing, service and quality are not determinants because these are spelled out by government specifications. Many study contracts are let just to establish these specifications and the state-of-the-art feasibility of a system.

Defense-Market Intelligence

Important differences exist in many other marketing functions, such as selling, advertising, channels of distribution (including physical handling), title transfer, and others. These differences, however, are minor compared with the central problem: locating the defense market and understanding its needs. For this reason, defense-market intelligence becomes the pivot around which all other marketing operations revolve.

More and more competitors find that it is not enough to wait for the government to issue a request for products. The defense industry is

Industrial Marketing (August, 1961), @ 1961 by Advertising Publications, Inc.

becoming more crowded and specialized, and this necessitates accurate knowledge of competitors, specialized markets, and price levels. An electronics company, for example, that is charting its course thoughtfully must decide whether to specialize and where, and whether to concentrate on production or research and development.

Many companies, to help reach these decisions, are expanding their market research. These specialists aid management in the gathering and interpretation of data; but both the method of research and its interpretation differ from normal market research.

It is difficult to send a survey team to visit admirals and generals and determine their reactions to products. Nor is it always possible for the military to state what their future needs will be. To some extent, however, such forecasting is attempted by the services, and this is worthwhile as a springboard for market-research efforts.

Technology and Spending

Standard survey techniques and motivational research are little used. The two main areas for study, unlike other marketing fields, are technical development and federal-spending trends.

Defense-market researchers are usually trained engineers or scientists. They tend to have a dual role as advance planners or product planners as well as researchers, because comprehension of present and projected technology and its possible worth necessitates a large amount of technical knowledge.

Determining the characteristics of potentially profitable products is basically a technical task; it includes determining what equipment and techniques are actually feasible within both the present and projected states-of-the-art. The implications of technical breakthroughs must be understood if such a forecast is to be useful.

These technical analyses must be combined with studies of defensespending trends and company abilities to forecast whether, for instance, infrared research would be the best future field for a particular company.

Government Needs

Once launched in particular fields, market researchers must thoroughly investigate present and future government needs in those fields, and must provide information to guide company developments. They must know the stateof-the-art when a new request is received-and perhaps direct the submission of unsolicited proposals. These unsolicited "suggestions" can result in proprietary contracts for the company. Whenever a possibly unique technique or system is conceived, an unsolicited proposal can be made to sell the buyer on the usefulness of the concept. In unsolicited, company-sponsored

work, one hopes to create a demand—rather than merely responding to invitations to bid.

Additional, although less technical, market research is necessary to determine the interested agency or prime buyer. It is important, for instance, to know that Chance-Vought outfitted the Pacific missilerange ships when a company is choosing an associate for team-bidding on Atlantic missile-range ships.

Engineering analyses are also based on technical liaison with the military research-and-development commands and systems-managers' research groups. These are the main primary sources of engineering information.

The main primary source of nontechnical market data is the contacts of the company's sales staff. In defense marketing, salesmen constitute the main channel of communication with the market. Therefore, they must carry the additional responsibility of locating and following the shifting course of interest, available funds, and procurement personnel on new and expanding projects.

Secondary Sources

Obviously, these information sources are not adequate for knowledgeable decision-making in a huge, rapidly changing market. Therefore, secondary sources are of great importance—so important, in fact, that they have multiplied to the point where they have now become

an almost incomprehensible maze.

Attempts have been made recently to channel the current flood of information more smoothly, particularly in the defense field. Some of these attempts are sponsored by the government itself.

One is ASTIA (the Armed Services Technical Information Agency), a triservice project that supplies unpublished technical reports to qualified industrial firms. There are more than 750,000 reports in the ASTIA collection.



Another source is the Office of Technical Services, established by the Department of Commerce to provide industry with information on new products and processes developed through government-sponsored research. OTS issues a research-reports newsletter monthly; a technical-reports newsletter monthly; a technical-translations list biweekly; and technical bibliographies.

The Department of Commerce also is creating a power-information center through the U.S. Army Signal Research and Development Laboratory. The center will collect and distribute project and status information on various types of power sources. The Signal Corps is setting up a similar data exchange,

the solar energy information center, which collects, analyzes, and distributes through a monthly newsletter information on solar conversion.

The Army publishes quarterly reports on fuel-cell research, while the Naval Research Laboratory makes available similar quarterly reports on thermoelectricity, and the Air Force on thermionic conversion.

Problem Guides

Each of the seven development commands of the Army release annual documents known as "problem guides" to identify their problems and provide related information to industry. The Air Force's equivalent method is the annual "technical-objective document." In checking on the Navy market, however, symposia and conferences are the primary ways to gain information.

In addition:

- The National Science Foundation issues reports on its thousands of sponsored projects.
- The Avionics Division of Wright Air Development Center

issues a research-objectives brochure to help guide contractors in the communications, reconnaissance, and navigation fields of development.

- The Air Force issues a monthly industrial newsletter, under the Community Relations Divisions of its Office of Information, providing marketing information to industry.
- The Air Research and Development Command's "CATE" program (current ARDC technical efforts) promotes information interchange by identifying particular engineers by their fields of effort.
- The National Inventors Council, a civilian agency of the government, screens potentially valuable inventive ideas. It issues, among other publications, a list of inventions wanted by the armed forces.

Government efforts are not the only attempts to solve the technical marketing information problem. Management-consulting firms are helping to solve the tangle with their literature contributions. Another valuable source is the business press.

Record Investment Abroad

PRIVATE U.S. INVESTMENT abroad increased by a record 5.5 billion dollars last year, raising the total to a new high of 50.3 billion dollars, notes the U.S. Department of Commerce. Long-term investments increased by about four billions while the balance stemmed from an overflow of short-term capital resulting from higher interest rates abroad and, to some extent, from apprehensions about economic and political developments in the United States.

Companies added 2.9 billion dollars to their direct investments overseas during 1960, increasing the total to 32.7 billions at the year's end.



Problems Raised by

Businessmen in Politics

By Charles R. Barr

November will bring another Election Day. It might be appropriate at this time to review some problems brought to light in last year's campaign—problems particularly related to business' role in politics.

Many business organizations last year had to overcome a negative tradition. That tradition states, in essence, that employees should avoid anything political or controversial—and politics is controversial. Feeling has grown that there is something sinister about being in politics. This feeling is based in part on fears by sales departments that

sales will be adversely affected; by legal departments that the company will be legally embarrassed in some way; by public-relations and advertising executives that the image and good name of the company and product will be adversely affected; and by tax representatives that the tax structure or licensing position may be adversely affected in the form of retaliation because of the activities of company employees. That tradition is still with us.

Also evident last year—and also, unfortunately, still extant—was the tendency of many employers to look upon employees elected or appoint-

Condensed from an address before the Chicago Chapter, Public Relations Society of America

ed to public office as a corporate arm into that office. If an employer wants employees to participate politically, the employer must thoroughly understand, and make it clear to his employees, that when they are working in politics or government they represent the constituents who have placed them there-and no one else. Too many people serve in public office not as whole citizens, but as representatives of special-interest groups first and their constituents second. By promoting such representation, an employer may be creating problems for himself. Customers, clients, and other associates will from time to time want to bring pressure on him in an effort to influence a specific employee in a governmental position. If an employer succumbs to this kind of pressure and tries to influence such an employee, the employer might as well forget any effort to encourage employees to become active in politics.

Policies Promote Participation

The election illustrated that when employers have simple, clear-cut policies encouraging employees to participate in politics and government, employee activity was greatly increased. Conversely, when there was doubt about the attitude of employers, there was definitely less activity on the part of employees. Companies that want to encourage their employees to participate in politics should have a clear, written,

properly communicated policy, and they should be sure that it is enforced openly and without favoritism.

A policy, however, is not enough. Employees often have been inspired by top management to become active in politics, only to get into trouble with middle managers who either did not believe in or did not understand management's position. A company that is trying to encourage employees to participate in politics must be sure that all supervisors understand the policy, and it must take immediate action if some supervisor does discriminate against an employee because of his political participation.

Many managers are confused about what political participation means. They think it means only running for office or getting appointed to one. This is an unfortunate misunderstanding. The people who work day to day in the party organization of their choice or affiliated organizations make a great contribution to our political system. They are the ones who make it possible for others to get elected to office. In a real sense, they can make a bigger contribution to a good political system than those who are elected to office.

Civic Affairs Officers

In recent years, several companies have found partial solution to these problems and others in the broad area of politics in the appointment of a civic affairs officer. There is confusion about his responsibilities, mainly because the activity is relatively new and no two companies appear to be operating alike. Generally, however, this is what he is doing:

• The civic affairs officer is responsible for developing programs that encourage employees, stockholders, and the public to participate in the political party of their choice. As part of this responsibility he must see that no employee is penalized in any way because of his activity, providing that it is within the scope of the law.

 He is responsible for developing—or for cooperating with other departments in developing—educational programs for employees and the general public regarding pertinent issues.

 He estimates and judges political trends and assesses legislative proposals that may ultimately be of concern to the company. He also, of course, advises top management of these trends so that executives may make judgments accordingly.

 He communicates to the various segments of a company the trends affecting the country, their business, and their special departments.

In some companies, the civic affairs officer is responsible for seeing that the company institutes a substantial research program on pertinent issues. This can be done either internally or by retaining competent outside help. During last year's campaign, some groups presented their case before platform committees, to candidates, and to the public better than others. Almost invariably, the ones who made the best presentations and were the most successful were the ones who had the best research. It is not good business for a company to spend millions of dollars on research for new and better products and to ignore research into political and government problems that may affect its operation.

Government Surplus Is Big Business

EVERY MORNING, an African fisherman slips into a pair of olive drab trousers and shirt, dons a G.I. tunic and paratroopers' boots, and sets out to the seashore with his fishing-tackle box—a converted ammunition can—tucked under his arm. His belongings are a tiny fraction of the 500-million-dollars' worth of surplus merchandise from U.S. government and industry sources being sold yearly, notes *International Management*.

The original acquisition price of this merchandise is estimated at three to five billion dollars per year. Between 30 and 40 per cent of all surplus is sold outside the United States. Africa has always been an excellent market for surplus products; now Latin America, Japan, Turkey, the Philippines, and Italy also account for large quantities,

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WHERE RECRUITING ADS GO WRONG

Arnold R. Deutsch

President

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Recruitment ads don't get results when they approach scientists and engineers in the wrong way. Here are some tested methods for strengthening your recruitment advertising . . .

T IS NO SECRET that the shortage of scientists, engineers, and technical personnel is acute—and it promises to grow worse. The growth of new industries in electronics, nucleonics, and space technology, in addition to the increasing competition for new products in almost every product line, has created a demand for engineering and scientific talent that the current pool of experienced technical manpower cannot fill. And, to compound the problem, engineering enrollment in U.S. colleges and universities is declining.

This means that the companies that depend on the work of professional employees for their growth and progress—and there are many of them—are competing in a seller's market for technical talent, and they cannot afford poorly planned or misdirected efforts in their search for qualified manpower.

The most widely used recruitment technique is advertising—and it is probably the technique that most needs improvement. For too many companies, recruitment ads are not producing results, primarily because they are approaching scientists and engineers in the wrong way. Approaches that work well in consumer advertising—and even in industrial advertising—are often ill-suited to the quite different requirements of technical recruitment ads.

Choosing a new job does not only affect the technical professional's career. It may also bring about drastic changes in the lives of his wife and children, particularly if he must move to a new locale. These changes may involve selling his home, severing his established connections and friendships, leaving a community he and his family have come to know well, and adjusting to

A MANAGEMENT REVIEW SPECIAL FEATURE

a new community. It is obvious, then, that choosing a new job is infinitely more important to him than is, for example, deciding between competing brands of toothpaste or cars. And it follows that recruitment advertising must be directed toward needs, aspirations, and satisfactions of major importance to him.

What Good Ads Accomplish

In order to be effective, recruitment advertising must perform several functions:

- It must generate inquiries from people who are actively seeking new positions.
- 2. It must presell people who, though satisfied with their place of employment today, may be looking for a new position next week, next month, or next year.
- It must reinforce present employees' pride in and loyalty to their company.
- It must present an image of the company in which the stockholders and the public can maintain continued confidence.

Many engineers and scientists who are not in the job market read recruitment advertising, both to keep abreast of new developments in the field and to make a mental note of companies they might send applications to, should dissatisfaction with the present job or some other reason indicate a job change. (In a recent survey of more than 3000 engineers, over 70 per cent

said they read recruitment ads either regularly or occasionally.) Consequently, a company is not getting the full fruits of its investment unless its advertising is helping to create a favorable employment image among the professionals who are its potential future source of manpower.

The most important way to create such an image is to demonstrate to the technical professional that the company has a good potential for growth, that the engineering staff is regarded as important for company operation, that they will work in a creative climate where they are given responsibility and areas of freedom to exercise initiative, and that the company has established tangible ways for providing professional recognition.

Establishing a Character

Recruitment advertising should attempt to establish a unique character that projects a clear, distinguishable image of the company. The only distinguishing characteristic of many recruitment ads published today is the company name at the bottom of the ad-vet a company that sounds like all of the other companies has lost one of its biggest assets: It fails to make an impression on the reader. A company can be sure that its ads reflect a distinct image of the company by using material from the company's own activities and experience. Specific facts should be included, for the

facts about one company do not fit others.

The Factual Approach

Although recruitment advertising has to be concerned with building a good employment image for the company, its main purpose is still to produce direct action—and this purpose definitely overrides the intangibles of long-term results.

What approach produces the most direct results? Copy tests and surveys have demonstrated that engineers and scientists prefer informative and factual approaches in ads. This leaning toward the factual, specific, and rational is not only due to the fact that a choice of fundamental importance to the engineer is at stake; it is actually part and parcel of the engineer's psychological makeup. Studies have shown, for example, that the engineer or scientist is highly intelligent, ranking in the upper quadrant of all college graduates. This intelligence, however, is not all-embracing; it is directed to the world of phenomena -to tangibles and things rather than to intangibles and people. Engineers tend, both by nature and by professional conditioning, to be factoriented and analytical in their judgments and decisions, and this fact-orientation comes into play very strongly when they look at a recruitment ad. They pay attention to ads that are professional, informative, descriptive, direct, and objective.

In a recent recruitment advertising copy test, for example, the ad that received the highest rating from scientists and engineers elicited the following comments:

Reliability engineer, electronics: "An informative approach and a dignified proposition in accord with the dignity I like to attach to my profession."

Research engineer, aerodynamics: "It is most objective, without frills."

Engineering specialist, radar: "It gives most concrete information about what is really expected from the type of people they are looking for. Best describes duties and type of position."

Naturally, the recruitment ad must speak the engineer's own language. This does not mean it must be so esoteric or so cluttered with technical terms and symbols as to be utterly meaningless to any but technical professionals. But it should deal fluently with a technical subject in the kind of vigorous, practical, and nonstatic style the engineer or scientist is accustomed to seeing in his journals and reports.

Believability

In addition to being factual, the recruitment ad should be unpretentious and believable. The great importance technical professionals attach to believability became especially evident in the advertising copy test mentioned above. The respondents were asked what they considered objectionable in contemporary advertising.

Overshadowing all other criticisms, the great bulk of comments

indicated that they were annoyed and repelled by the "brag-and-boast" approach—ads that use exaggerated claims, misleading statements, gimmicky appeals, frills, and overglamorization of job vacancies. There is no doubt that an excess of superlatives evokes only boredom, exasperation, and rejection in most engineers and scientists. Far from influencing them, such ads actually repel them. Here are some comments from the survey that illustrate their feelings:

Research associate, electrical engineering: "I believe that there should be more honesty in advertising. After ten years of teaching and industrial experience, I am well aware of how disappointing it can be to go to a company that promises 'the moon with a ring around it,' only to find all too often that you are an overpaid technician. It did happen to me!"

Reliability engineer, electronics: "Engineers and their professional dignity are not cigarettes, soaps, or napkins, so the advertising methods to sell the latter and hire the former should of necessity be different."

Research and development engineer, electronics: "Too many falsehoods are presented. A direct, sincere approach with solid follow-up is usually the best seller, for a professional man will carefully evaluate a situation . . . A person must feel that he should desire to become a member of a company after reading an ad."

As these comments indicate, we are dealing with highly intelligent, professional men who like to check and double-check all the claims and appeals made to them. Consequently, the "reason why" technique and other rational appeals have to be used in recruitment advertising. Working within the framework of

an engineer's fact-oriented outlook, an ad cannot, for example, simply state that the company is "a leader in the scientific field." It must demonstrate the company's leadership by showing it at work in an advanced field, using interesting factual material to back up its claims.

Believability is thus one of the most important elements in a recruitment ad. It can be equated with sincerity—a genuine, honest effort to reveal the intrinsic properties and advantages of the job.

Interests and Values

In order for an ad to "ring true," it must be prepared with insight into what is valid from the engineer's point of view. Confronted with an ad that reflects his interests and values in an authentic way the engineer responds positively: "These are my problems" . . . "This is exactly what I want" . . . "That's me they're talking about."

The primary motivating factor in the engineer's psychological makeup is his absorbing interest in his work and the things he works with. As a professional group, engineers are so remarkably involved in their work that the challenge inherent in a job is much more important to them than fringe benefits, working conditions and facilities, geographic location, or even salary. A recruiting ad, to be effective, should appeal to this interest.

Some companies insist that the most important element in an effec-

tive recruitment ad is the mention of high salary, and it must be admitted that salary looms large in almost all the surveys conducted to determine what factors engineers consider before accepting a position. In fact, engineers value concrete rewards and material gain more than do people in several other professions. Nevertheless, a balance is usually provided by the engineer's strong sense of responsibility, strong workorientation, and conscientiousness, and it would be a mistake to underestimate the importance of broader motivations. Studies have indicated that the factors of career-consciousness and work-orientation are more important considerations than salary in engineering motivation, and that an engineer is likely not to dwell so much on the question of money if



"Boys and girls, this is Mr. Smythe of the Universal Aircraft and Missile Corporation. He wants to tell you about the advantages his company has to offer the graduating engineer."

-Cartoon courtesy of Better Homes & Gardens Magazine

he is promised creative and challenging work and the possibility to cooperate in the solution of tough problems. Dominating the engineer's psychology is an intense desire for stimulating, challenging, and creative work. Only when this is absent will he drive a hard bargain for monetary remuneration.

Preparing an Ad

In addition to these fundamental points, much can be learned about the actual mechanics of preparing an ad from studies and copy tests conducted among engineers and scientific personnel. Some obvious questions immediately arise: How long should the copy be? Are illustrations effective? What about the humorous approach?

Long copy or short?

Consumer advertising is progressively using shorter and shorter copy, but this is not true of recruitment advertising. A series of copy tests have shown that more engineers find the ads "too short" than "too long." They want to find out as much as they can about the company that is advertising and about the exact nature of the job vacancies in order to make an intelligent decision.

In fact, as long as the copy tells the company's story adequately, its length doesn't seem an important factor. The engineers were much more likely to criticize other aspects of the ad: "advantages weakly suggested," "too general," "overselling," "fails to make point clear," and "lacks interest value." It appears that length of copy does not enter into consideration at all if an ad is good in all other respects. It emerges as an irritant mainly in combination with other serious shortcomings in the ad.

Illustrations

Pictures and illustrations may be used for their attention-getting value, but they must not be too "cute," or unrelated to the copy theme. What's more, if their use means that copy content and length are sacrificed, they actually detract from the value of the ad.

Ideally, illustrations should augment, advance, or substantiate the copy message in an original and imaginative way, to enhance total recall of the ad. Whenever possible, they should make use of concrete engineering equipment or engineering symbolism to stimulate the engineer's attention and arouse his interest. Illustrations that are used merely for the sake of catching the eye are worse than none at all.

Copy tests corroborate this conclusion: Ads with nontechnical art were rated least effective of the five different approaches tested. An ad that depended primarily on a piece of modern, symbolic, but nontechnical art placed last in appeal—and last in evoking the image of a company engineers would like to work for. Almost half of the engineers

who participated in a recent study thought that this ad invited outright rejection or disbelief, and it was voted the least credible, convincing, and persuasive of the ads tested.

Cartoons and humor

Cartoons and humor in recruitment advertising can also be self-defeating. Humor, especially the kind that reduces the importance of engineering as a profession, attacks the dignity engineers attach to their work. Moreover, job change is a serious undertaking for engineers, and humor of the flippant sort is out of place; it could well backfire by causing some engineers to lose their respect for the company. The disapproval, dislike, and irritation that an ad of this sort elicits tends to be directed at the company that uses it.

Effective Recruitment Ads

Continuing studies and copy tests indicate that engineers respond positively to some elements in recruitment ads. On the basis of these findings, it seems clear that recruiting ads should observe the following guides:

 Offer specific information on job requirements and vacancies, describing flexible opportunities and diversification possibilities. Tell a little more than is the usual custom about the company itself—its facilities, activities, and over-all projects and plans.

 Communicate in a clear, specific fashion what is offered to the engineer and the advantages that working for the company would bring him.

4. Accentuate job dignity and a sense of engineers' professional status; promise greater scope for talents, and convey the idea that the engineer will not be one of a crowd.

 Demonstrate opportunities to shoulder responsibilities, and make the engineer feel that the talent he brings to the company will be recognized and rewarded.

Recruitment advertising has made, during the past years, much progress in the use of more effective creative techniques, but great opportunities still exist for improvement. It is an area that deserves careful attention, for a company's recruitment advertising does much to create the image that it presents to the professional community. As one respondent to a survey put it: "A company demonstrates its imaginativeness and outlook in its ads. I tend to gauge a company to a certain extent just by the nature of its advertising."

The following two pages contain examples of recruiting ads that are almost guaranteed to leave prospective applicants cold—plus one that is clearly designed to give engineers and scientists the information they want.

RECRUITMENT ADS-GOOD AND BAD

THE TWO EXAMPLES of recruitment advertising below illustrate the type of ad that antagonizes engineers and scientists. Although they may, at first glance, seem to have an appeal, closer inspection reveals that they are more likely to repel the very men they are supposed to attract:

CLIMB THE LEADERSHIP LADDER WITH BLANK, INC.

Give your career a "shot in the arm" by joining BLANK, INC., the biggest name in the aviation field. You'll find top challenge here and, if you're a fast thinker, you'll move fast up the ladder. Have experience in the following fields? Then write us, without delay.

Aerodynamics
Flight Propulsion
Mechanical Analysis
Blank, Inc., 00 Center St., Miami, Fla.

Engineers: AE, ME

WANT TO BE TOP MAN ON THE TOTEM POLE?

-Then you're A-OK with this aviation leader-Blank, Inc.

Many challenging positions with high career potential are open to able, aggressive engineers experienced in:

Aerodynamics Mechanical Analysis

Our programs are important. Our salaries are the highest in the field. Advancement comes rapidly to a good man. Our location is really tops—Florida.

Your wife will want you to choose this engineering opportunity. Here your family can live within easy reach of famous beaches. Modern homes near our plant are amazingly low-priced.

For a job that has everything, look to BLANK, INC. Write us today.

What's wrong with these ads? For one thing, they give no professional information, and no real facts about the company. Their ballyhoo style goes against the grain of engineers; they are not written in engineers' language; and their general flavor is cheap.

In contrast, the ad on the opposite page includes many of the elements that attract and convince engineers and scientists. It is informative, professional, long enough to tell the whole story, and it backs up its claims with actual facts about the company. In short, an ad that does the job it was intended to do. (Only the advertising copy, not the original layout, is reproduced here.)

ENGINEERS

What we mean by INTEGRATED RESEARCH at the G.E. Electronics Laboratory

. . . and why this concept is so fruitful in valuable findings and individual achievement

Any problem—plucked from the entire field of electronics—that becomes of interest to the Laboratory is studied simultaneously from every relevant technical angle, by specialized professional groups. These men maintain direct contact with each other, exchanging information on every phase of a project.

A current instance of this invigorating professional interaction at the Laboratory is a program for developing radically new radar techniques. Design advances—such as an electronically scanned antenna—will be coordinated with the handling of vastly larger amounts of data than radar systems have ever handled before. Scientists and engineers of all seven Laboratory sub-sections are making important contributions to this project.

Significant progress in the program is regularly covered in formal and informal conferences and in technical reports circulated to all groups. Representative report titles listed below indicate how far-reaching are the interacting investigations involved:

Ferrite Materials for Microwave Frequencies by J. B. Linker and H. C. Rothenberg

Analysis of Maser Techniques for Infrared Detection by G. K. Wessel An Electro-Optical Shift Register by J. A. Baer Parametric Converters and Amplifiers

by C. S. Kim

Topological Theory
of Switching Circuits
by C. Saltzer

The Performance of an IF Integrator Preceded by a Limiter by W. G. Hoefer

Application of Low Temperature Solid State Amplifiers by H. H. Grimm

Laboratory-wide interplay of varied talents is credited by scientists and engineers here with contributing materially to their individual accomplishments. It is also valued as a prime ingredient in the unflagging intellectual appeal the Professional Staff finds in the Laboratory's diverse R & D undertakings.

PROFESSIONAL OPPORTUNITIES AT ELECTRONICS LABORATORY

The Electronics Laboratory engages in applied research and advance development covering the entire field of electronics. More than 70 percent of the Professional Staff have advanced degrees. Openings at various levels exist in the following areas:

Solid State Materials • Magnetics and Dielectrics • Solid State Devices • Network Synthesis • Advanced Circuitry • Electron Solid State Devices • Communication Theory • Recording Devices • Display Techniques • Light Optics • Electron Optics • Radar Techniques • Antennas • Microwave Devices

For further information about current openings in any of the above areas, contact Mr. Robert F. Mason, Dept. 00-0

ELECTRONICS LABORATORY located at Electronics Park
GENERAL ELECTRIC CO., Syracuse, New York



Machines that Teach

Condensed from Business Week

A NEW TRAINER is teaching more than one hundred salesmen of the Plumbing & Heating Div. of American Radiator & Standard Sanitary Corp. how to pep up their sales. The trainer is a robot tutor. It's still a novelty—both to the salesmen and to industry—because so far only a handful of employers are using teaching machines in their training programs. But there are signs of quickening interest.

Programed learning, the theory

on which teaching machines are based, is a method of instructing students systematically without a human teacher. Information is given in short steps. At the end of each step, the student answers a question or makes some other response; he is told immediately whether his response was right. This pattern of information, response, and feedback is supposed to help the student learn more quickly and easily.

Teaching machines are mechani-

Reprinted from Business Week (August 26, 1961), by special permission;

cal devices for getting a student through a paper or film teaching program. One type, the sequential method, gives a lesson in short statements, each with a question to be answered (usually a blank to be filled in). The answer appears on the next frame.

The machine that American Standard is using—the Mark II AutoTutor, made by Western Design & Electronics Division of U.S. Industries, Inc.—works on the branching method. Instead of writing in answers, the student pushes what he believes is the right button. The right choice moves him on to the next lesson. A wrong choice takes him to a frame that explains why he is wrong; he then takes the lesson over again.

Machine vs. Paper

Either system—sequential or branching—can be used without a machine, via "scrambled" or programed textbooks or workbooks. And some recent experiments suggest that students learn equally well from programed courses in booklet or machine form. Students of Dr. H. O. Holt, Bell Telephone Laboratories psychologist, learned more basic electricity by the programed method than from lectures, but there was no difference between the book-taught and the machine-taught trainees.

The case for the machine seems more a matter of the trainer's convenience than the student's. Those who prefer machines claim these major advantages:

- The machine prevents the student from cheating.
- It keeps track of his errors, which helps in evaluating him and the program.
- It has a certain attraction for the trainee. One training supervisor notes: "A lot of our people got into the spirit of playing games with it."

Using Workbooks

A number of companies-among them International Business Machines Corp., Varian Associates, System Development Corp., and Spiegel, Inc.—are using programed workbooks only. IBM has used them to teach the basic facts about two of its computers and a cardsorting machine to several hundred customer engineers and Air Force personnel. Varian uses a programed book to show customers and salesmen how to use a complex product. SDC has given a thousand trainees scrambled texts on computer number systems to prepare them for courses in computer programing. Spiegel distributes programed booklets describing its incentive program to all new employees and is working on a nonmachine programed course for credit-accounting correspondents.

On the other hand, some companies favor the machines. Kearfott Div. of General Precision, Inc., has machine-taught algebra, trigonometry, basic electronics, and the use of

the slide rule to foremen and engineers, and currently is programing parts of a course in inertial guidance for the AutoTutor. E. I. du Pont de Nemours & Co. uses the Min/Max of Grolier, Inc., to train personnel in instrument mechanics; ACF Industries, Inc., is using it to teach algebra to machine apprentices. Radio Corp. of America is machineteaching the basics of computer technology and expects to bring out its own teaching machine.

Impressive Results

With or without the hardware, some of the results from programed learning are impressive. Eastman Kodak Co., after programing a psychology lecture for supervisors, found that students taught that way remembered about twice as much as the ones who listened to the lecture. IBM's programed course on the 7070 computer produced average grades of 95 per cent (compared to 87 per cent by lecture) and cut training time 27 per cent.

Du Pont estimates that programed learning increases the amount its trainees learn by about 25 per cent and has reduced the length of the classes by the same percentage. Spiecel cut the time of a billing course from 40 hours to an average of 32 hours, a cost saving of 25 to 30 per cent.

Programed learning doesn't always save time, however; since each trainee moves at his own pace, one student may take twice as long as another. For that reason, Spiegel discontinued its programed billing course. Not all the students in the class were ready for on-the-job training at the same time; a staggered flow of students meant added supervisory costs that more than balanced the savings in class time.

Flexibility

Most training directors consider that the flexibility of individualized instruction is one of programed learning's biggest features. You don't have to shut down a whole operation to train all the people in it, points out James S. Bruce, Kodak's training director. More training can be decentralized, which means a big saving in travel and hotel bills to a far-flung company.

Despite these advantages, there has been no rush to programed learning. For one thing, not every subject lends itself to the technique. Bruce thinks the method is ideal for such teaching as getting technical terminology across before a course begins, so that everybody starts even. But many people doubt that the technique can be applied to inexact fields.

Another problem is cost. A machine costs anywhere from \$2.50 to \$5000. Commercially produced programs generally are priced at \$5 to \$20. If the program is supposed to be written on, you need one for each student.

Most of the fifty or more organizations now in the programed-

learning business are aiming at the schools. Of several dozen commercially available programs listed in a University of Michigan bibliography, only a few cover subjectsmostly mathematics-that are likely to be part of corporate training programs. More programs specifically designed for industrial use will be coming out soon. A rumber of publishers, consultants, and machine makers are working on subjects such as transistor theory and management. However, there's a limit to the number of subjects that can be taught the same way in every company.

Large-scale users of programed instructions have been preparing their own courses. But that runs

into big money. It's estimated, for example, that a nine-month course takes from 10,000 to 12,000 manhours to write, at a cost of about \$50,000 in salaries alone. Du Pont figures it takes three man-days to prepare one hour of a programed course; IBM, about a week; Kodak, from 25 to 50 hours. Du Pont says that if a course can be given to at least 100 people, the cost is justified; others put the minimum as high as 1000.

Even if a company wants to spend the money for a custom program, there are only a few hundred experienced programers around. For all these reasons, most companies are still just looking at programed learning.

Keys to Status

How do you Judge a man's status in his company? By the number of keys he carries compared with the number of doors he must open, answers Robert Sommer, writing in Worm Runner's Digest, an informal journal published by research associates of the University of Michigan's Department of Psychology.

The status of a man can be determined with the formula, S=D/K, notes Mr. Sommer. S is the status of a person in his organization, D is the number of doors he must open to perform his job, and K is the number of keys he carries.

For example, a secretary has to open two doors; she has one key; this gives her a status score of two. A staff scientist has to open six doors or cupboards; he has two keys, which gives him a score of three. The director of the laboratory has to open fifteen doors and has three keys; this gives him a status score of five.

But the president, notes the author, never has to carry any keys, since there is always someone around to open doors for him. Hence his status rank in the company reaches infinity.

SPECIALIZED SELLING: Answer to Rising Sales Costs?

Condensed from Printers' Ink

Specialized selling is gaining in popularity. In capital-goods and consumer-goods industries alike, some companies have found it the only efficient way the sales force can reach greatly expanded markets with rapidly expanded product lines.

One of the most highly specialized sales forces in the nation belongs to IBM's data-processing division. The specialization there is oriented toward specific industries and customers rather than products. In New York, for example, IBM has a specialized 400-man office on Wall Street to sell to the financial community. In Los Angeles, it has an office that sells only to the aircraft and missile industry. Charlotte, N.C., and Miami are the sites of specialized textile offices; New York and Chicago have specialists for the publishing industry; and other specialized offices across the country

serve public utilities, insurance, and other industries.

IBM has also broadened some of its geographical territories to permit more specialization within industries. From Hartford, Conn., for example, a special banking-industry team of salesmen covers the financial community in both Hartford and Springfield. A separate team sells to the insurance business in the same territory. In some cases, special sales teams have been set up for a single client—as for United Aircraft.

At present, some 85 per cent of IBM's salesmen are operating on a specialized basis—that is, they spend 50 per cent or more of their time selling to a specific industry. "Our salesmen talk on an executive decision-making level," explains IBM data-processing's eastern regional sales manager, F. G. Rodgers. "On that level, a customer is more

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impressed by a salesman's knowledge of the industry and its problems than by his knowledge of a certain machine's microsecond speed. The most important thing for our salesman is to be familiar with the industry he's selling—to be able to talk its language intelligently and discuss the applications of data processing with authority."

For some companies, product specialization rather than industry specialization may be effective. A chemical company, for example, found its lines geting too complex for one salesman to encompass; it improved both sales and profits by specializing its sales force along product lines.

Specialization has many applications in the consumer-products field. Some drug companies use one sales force to sell to the high-volume department stores, another for the relatively low-volume drug outlets. And a food manufacturer recently set up a specialized sales force to sell its new line of soup bases.

Sizable Shift

As more companies get into specialized selling, there appears to be a sizable shift occurring from product- to customer-oriented specialization. With product specialization, Gulf Oil Co., for example, found a good deal of overlapping in sales effort. If a service-station operator needed lubricants, gasoline, and miscellaneous accessories, he could have as many as five com-

pany salesmen knocking on his door. Now Gulf specializes by market. An industrial salesman, for example, will sell manufacturers heating oil, lubricants, gasoline, and whatever else they need.

Burroughs Corp. also discontinued product specialization. Formerly its adding machines and cash registers—the simplest types of equipment-were sold by salesmen in training. Now company salesmen specialize in terms of customers. Certain men in the major offices are assigned to specific markets, including government, utilities, financial, retail, manufacturing, wholesale. Rather than specific products, they sell entire Burroughs systems. The only vestige of product specialization is Burroughs' dataprocessing sales group, which specializes in computer systems ranging in cost from \$200,000 up.

Cost Problem

Clearly, many companies are building sales through specialization. Others, however, have learned that specialization does not fit their particular needs—that it presents more problems than it solves. One of these problems is cost. Specialization is likely to increase expenses at the outset at least, because of increased man-power and travel time. While these costs are often offset by later efficiencies, it doesn't always work out that way.

For this and other reasons, a number of companies have shifted

from specialization to more general selling. Norge, a division of Borg-Warner Corp., tried product specialization several years ago, but has returned to multi-product salesmen for reasons of economy. American Optical Co. used to employ separate salesmen for frames, cases, and lenses; now its salesmen handle the full line with backing from factory specialists.

Reorganization

While any company might consider specializing, sales authorities agree that none should rush into it without careful study. In many recent cases, specialization involved major organizational changes.

At Ansul Chemical Co., salesmen were selling three types of products — industrial chemicals, refrigeration units, and fire extinguishers. "We found," sales vice-president Leonard McKesson stated, "that you can't stretch a salesman over all three kinds. Each type has its own approach and problems."

Ansul's solution: It moved sales management from headquarters into the field, set up five regional sales offices, and specialized its salesmen by product lines. Regional sales managers were made virtually autonomous. Soon after, over-all sales and earnings began to rise substantially.

National Gypsum also found that the decision to revamp selling required sweeping reorganization. As the company added new products and entered new markets, salesmen found they did not know enough about every item.

Management then set up four separate sales forces in the parent company, each covering the distribution outlets for its own product line. There are no overlapping functions or territories. Gypsum salesmen now are more easily trained within a specific product area, get closer to customers by learning more of their problems, and can devote more time to follow-up and missionary calls.

Trial Run

There are ways to lessen the risks involved in such far-reaching reorganization. One is a trial run with only part of the sales staff. "Chances are that you already have several men in your organization who are specializing to some degree," says Bill Terrence, national-accounts sales manager for Ozalid division of General Aniline & Film Corp. "Select the best of them and encourage their specialization. After it works, you can think about broader applications."

In another approach, the sales manager himself can take on a specific product or tackle a particular market. If his effort is successful, he can make his next move with confidence. But once management is convinced that specialization is necessary and actually works, a complete marketing reorganization usually must follow.



Military Leave Pay: POLICIES AND PRACTICES

Condensed from Practical Methods in Labor Relations

PLANNED INCREASES in the size of the Armed Forces make it desirable for employers to review their policies on military-leave pay.

Military-leave pay is not required by law. The present law does state, however, that employees entering service are to retain their re-employment rights: They are considered to be on leave, with the right to be reemployed upon their return to civilian status without loss of the seniority rights or benefits to which they were entitled when they joined the Armed Forces.

The military-service obligation for physically able young men is now either six years (two in the active forces and four in the reserves) or eight years (three to six months in active service and the rest in reserve training). However, the length of these obligations may be extended by law for at least one year—and in emergencies, for indefinite periods.

Military-service requirements, of course, affect particularly the younger male workers. Some older workers may also have reserve status, particularly as officers, as a carry-over from former military service. In addition, many workers are members of National Guard Units, including the Air National Guard, and thus may be called into active serv-

Practical Methods in Labor Relations (August, 1961), Labor Relations Institute

ice for additional training. In general, however, only a small portion of each company's work force is liable to be on military-service leave, unless an extremely serious emergency develops.

To help employees meet the financial loss ordinarily involved in going on military duty, many companies voluntarily provide military-leave payments. Provisions for such payments are rarely incorporated in union agreements. However, they may be included indirectly by a reference in the contract to the continuation of past practices.

Forms of Payments

Military-leave payments usually take two forms: full pay for a stated number of weeks or the difference between military pay and regular wages ("makeup pay"). Makeup pay usually continues for a short period, ranging up to about one month.

Another form of military-leave payment is a flat sum. Many provisions or policies scale these payments upward for longer-service workers or, in some cases, for those with dependents.

Contract Provisions

About two years ago, the Bureau of Labor Statistics of the Department of Labor made a survey of military-leave provisions embodied in major union contracts. They found that uniform payment for all workers is provided by 44 per cent

of the companies surveyed; payments graduated by the length of service are provided by 36 per cent; and payments graduated by both dependency status and length of service are provided by 16 per cent.

The size of the payment usually is small, consisting in most cases of one, two, or four weeks' full pay or two weeks or more of makeup pay. In 59 per cent of the military-leave provisions surveyed, a week's average earnings is the minimum payment. About 30 per cent offer two weeks' full pay; 32 per cent also offer two weeks' makeup pay. For longer-service employees, a very large proportion of employers provide up to four weeks' full pay, and a few provide even more.

Minimum company service that is required in order for a worker to be eligible for military-leave payments is usually about six months, and in no case is it more than one year. Maximum payments for long-service employees are given, in many cases, only after five years' employment.

Most military-leave-pay provisions make it clear that the worker will also be paid for any earned but unused vacation time at the time he leaves.

Concerning short-term training leave, most provisions make no specific reference to vacation time; those that do state that the military-leave pay is separate from and in addition to earned vacation benefits.



The Indispensable Tiger

A POWERFUL OLD TIGER, the leader of his pack, was preparing to go on a hunt. Gathering the other tigers about him, he said, "We must go out into the plains and hunt, for the winter is coming. You young fellows come with me; perhaps you will learn a thing or two."

The young tigers were pleased to hear this, for the old fellow had hitherto shown no interest in tiger development. He usually left them behind when he went foraging, and they were tired of doing nothing but keeping order among the cubs and performing other routine tasks.

A MANAGEMENT REVIEW SPECIAL FEATURE

The first day out, the old tiger spotted a herd of elephants. "Here's your chance, Bernard," he said to one of the younger tigers. "Look at it as a challenge."

But Bernard had no idea how to go about hunting. With a roar, he rushed at the elephants, who ran off in all directions. "It looks as though I'll have to do the job myself," said the leader philosophically. And so he did.

The next day, the tigers came upon a herd of water buffalo. "Suppose you take over now, Jerome," said the old tiger, and Jerome, reluctant to ask silly questions but determined to do his best, crept up on the grazing buffalo. He leaped straight at the largest of them, but the big buffalo tossed him to the ground, and Jerome was lucky to escape in one piece. Mortified, he crept back to the group.

"No, no, no!" said the old tiger.
"What's happening to performance around here?"

"But you never taught us how to do it," cried one of the young tigers. The old tiger was in no mood to listen. "The

rest of you stay where you are," he growled, "and I will do the job myself." And so he did.

"I can see," said the old tiger, as the others gathered admiringly about him, "that none of you is yet ready to take my place." He sighed. "Much as I hate to say it, I seem to be indispensable."

Time brought little change. The old tiger sometimes took the younger ones along with him on hunts, and occasionally he let one of them try to make a kill. But having received no instruction, they were unequal to the task. And the old tiger still made no effort to teach the others his tricks; he had forgotten that he himself was a product of tiger-to-tiger coaching.

One day, when he had grown quite old, the tiger met a friend—a wise lion he had known for years. Before long, the tiger was launched on his favorite topic of conversation: the lack of initiative in the younger generation.

"Would you believe it?" he asked the lion. "Here I am, getting a bit long in the tooth, and I still have to do all the hunting for my pack.

There seems to be no one of my stripe a round."
"That's odd," said the lion.
"I find the younger lions in my pack take well to

instruction. Some of them are carrying a good bit of responsibility. In fact." he continued. "I'm thinking about retiring next year and letting the younger fellows take over."



"I envy you," said the tiger. "I'd take things easier and relax myself if I only saw a little leadership material around me."

The old tiger sighed and shook his head. "You can't imagine," he said, "what a burden it is to be indispensable."

MORAL: Managers who won't share the burden must bear the burden.

The Fish Who Chased Butterflies

In a sunlit lake in the middle of a great forest there once lived a large trout. Like the other trout in the lake, he spent much of his time catching the flies and waterbugs that ventured near the surface of the water. But being a go-getter, he usually caught more than his share, and he grew larger and sleeker all the time.

One day, as he was resting after a large meal, a fat shiny bass paddled up to him.

"What was for lunch?" asked the bass.

"Why, flies and waterbugs, and plenty of them," said the trout. "I've been thriving on them for years."

"Flies and waterbugs!" the bass said. "Don't you think it's about time you diversified?"

Now, it had really never occurred to the trout to go after anything else, so he replied airily, "Oh, I'm doing all right."

"I'm surprised to hear you say that," said the bass. "One would think that an alert fellow like you would be looking out for better opportunities. I, for one, prefer to eat butterflies."

"Butterflies?" cried the trout. "You eat butterflies?"

"Certainly," said the bass.
"They're delicious, and one of them is worth a dozen waterbugs any day.
But of course, they *are* hard to catch; not everyone can do it."

This remark was uncalled for, and the trout resented it. "I'll have you know," he said stiffly, "that I am one of the best operators in the pond."

"I don't doubt it," said the bass.
"That's why I'm surprised that you're still satisfied with the same thing. Well, there's no accounting for tastes." And with a flip of his fin, he glided away.

After some brooding, the trout reached a decision. He had thrived on flies and waterbugs, but the idea of eating butterflies was irresistible. Unfortunately, however, he did not think through the difficulties of converting from bug-catching to butterfly-snatching.

In the days that followed, try as he might, the trout could not snare one of the elusive creatures. Their erratic courses dismayed him, and his leap was always too soon, too

late, too low, or too high.

Not that he would admit this; for he was a competitive fellow, and he refused to acknowledge that

his abilities were not appropriate to the goals he had set for himself. Day followed day, and the oncesleek trout grew thinner and thinner, but he still persisted, the tempting image of butterfly dinners always before him.

As time went on, the trout grew weak from hunger, and soon he could do no more than raise his head above the water and snap feebly at the butterflies that fluttered across the pond. One day, resting heavily on the muddy bottom of the lake, he heard the voice of the bass.

"My good fellow," said the bass, who looked fatter and shinier than before, "I hardly recognized you. What in the world is the matter?"

"Nothing," said the trout, who still had his pride. "Must've eaten too many butterflies."

"Butterflies?" said the bass. "Are

you still chasing butterflies? Why, I got out of that long ago. Too many ups and downs, and in the end, you're stuck with a novelty

item. I've gone back into flies and waterbugs."

The poor trout had gone too far to admit defeat. Besides, he was now so weak that he couldn't catch flies and waterbugs if he had wanted to. "I like butterflies," he mumbled. "One of them is worth a dozen waterbugs."

"Well," said the bass kindly (for he was shocked at the poor trout's condition), "perhaps you're right. As I always say," he added, swimming away, "there's no accounting for tastes."

MORAL: Diversification isn't everybody's dish.

The Ill-Informed Walrus

How's IT GOING DOWN THERE?" barked the big walrus from his perch on the highest rock near the

shore. He wait d for the good word.

Down below, the smaller walruses conferred hastily among themselves. Things weren't going well at all, but none of them wanted to break the news to the Old Man. He was the biggest and wisest walrus in the herd, and he knew his business—but he did hate to hear bad news. And he had such a terrible temper that every walrus in the herd was terrified of his ferocious bark.

"What will we tell him?" whispered Basil, the second-ranking walrus. He well remembered how the Old Man had raved and ranted at him the last time the herd caught less than its quota of herring, and he had no desire to go through that experience again. Nevertheless, the walruses had noticed for several weeks that the water level in the nearby Arctic bay had been falling constantly, and it had become necessary to travel much farther to catch the dwindling supply of herring. Someone should tell the Old Man; he would probably know what to do. But who? And how?

Finally, Basil spoke up: "Things are going pretty well, Chief," he said. The thought of the receding waterline made his heart feel heavy, but he went on: "As a matter of fact, the beach seems to be getting larger."

The Old Man grunted. "Fine, fine," he said. "That will give us a bit more elbow room." He closed his eyes and continued basking in the sun.

The next day brought more trouble. A new herd of walruses moved in down the beach, and with the supply of herring dwindling, this invasion could be dangerous. No one wanted to tell the Old Man, though only he could take the steps necessary to meet this new competition.

Reluctantly, Basil approached the big walrus, who was still sunning himself on the large rock. After some small talk, he said, "Oh, by the way. Chief. A new herd of walruses seems to have moved into our territory." The Old Man's eyes snapped open, and he filled his great lungs in preparation for a mighty bellow. But Basil added quickly, "Of course, we don't anticipate any trouble. They don't look like herring-eaters to me-more likely interested in minnows. And as you know, we don't bother with minnows ourselves."

The Old Man let out the air with a long sigh. "Good, good," he said. "No point in our getting excited over nothing, then, is there?"

Things didn't get any better in the weeks that followed. One day, peering down from the large rock, the Old Man noticed that part of his herd seemed to be missing. Summoning Basil, he grunted peevishly, "What's going on, Basil? Where is everybody?"

Poor Basil didn't have the courage to tell the Old Man that many of the younger walruses were leaving every day to join the new herd. Clearing his throat nervously, he said, "Well, Chief, we've been tightening things up a bit. You know, getting rid of some of the dead

wood. After all, a herd is only as good as the walruses in it."

"Run a tight ship, I always say," the Old Man grunted. "Clad to hear that everything's going so well."

Before long, everyone but Basil had left to join the new herd, and Basil realized that the time had come to tell the Old Man the facts. Terrified but determined, he flopped up to the large rock. "Chief," he said, "I have bad news. The rest of the herd has left you."

The old walrus was so astonished that he couldn't even work up a good bellow. "Left me?" he cried. "All of them? But why? How could this happen?"

Basil didn't have the heart to tell him, so he merely shrugged helplessly.

"I can't understand it," the old walrus said. "And just when everything was going so well!"

MORAL: What you like to hear isn't always what you need to know.



Blasting Metals Into Shape

By Lawrence Lessing

Condensed from Fortune

SPACE-AGE ENGINEERS have developed a production method for forming rocket and missile components that is nearly as fantastic as the vehicles themselves. This is the use of controlled underwater explosions to shape metals. Already widely used in molding the difficult metals and compound curves of space technology, the process' technical advantages and low cost hold important implications for other areas of U.S. industry.

Explosive forming of metals is not new. It was used, for example, in the late nineteenth century to make the brass spittoons of a bygone era. Since 1956, however, the technique has been rediscovered and redeveloped on a large scale to meet space-age demands. Today, several corporations in the space industry have large explosive-forming facilities and active research programs.

The principle behind the tech-

nique is simple. In a heavy, relatively noncompressible liquid like water, explosions swiftly build up extremely high, short-range gas pressures, rapidly transmitted by shock wave through the fluid. A ten-gram pellet of dynamite, for example, can send a shock wave through water at 20,000 feet per second, exerting pressures of 1000 pounds per square inch. Larger amounts of higher-energy explosives can unleash pressures up to four million pounds per square inch. By carefully selecting and weighing the charge and giving its container or its detonation pattern a special shape, engineers can direct and control the explosive pressures to achieve swift, incredibly precise results. A heavy sheet of metal may be molded against a single die-into a rocket dome, for instance-in a few thousandths of a second.

The big advantages of explosive

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metal forming are its economy and enormous versatility. Fifty cents' worth of high explosive releases a greater force than can the biggest mechanical press ever built. Minimum required equipment for the process is a pool in the ground, a crane, explosive storaga, and single dies—which all together may cost one-quarter or even one-tenth as much as a comparable mechanical press.

The process can be expanded by adding tanks, hoists, and assembly lines for handling dies. Such simple equipment and a few pounds of explosives have replaced for many uses a giant, 8000-ton hydraulic press—installed in 1951 at a cost of over one million dollars—in Lockheed's Burbank plant.

Faster and Easier

Mechnical-press forming often requires four to six draw operations to make deeply concave shapes, with long annealing sessions between draws to relieve stresses in the metal. Explosive forming, however, blasts out the same configurations in one or two detonations, with no annealing and little or no finishing required. The hardest high-tensile metals can be contoured with minimum spring-back or risk of fracture. The explosive shock wave acts as a fluid, frictionless ram, causing the metal to flow freely into the die cavity without the excessive stretching of press forming, with less harmful effects on the metal being

worked, and with more control over its final thickness and shape.

One Drawback

Explosive forming has one draw-back: It must be conducted out of doors in well-protected or secluded areas where high explosives can be safely handled. The process, therefore, is usually performed in lonely canyons or on barren hills and mesas; currently, much of its use is concentrated on the West Coast, where outdoor operations fit into the pattern of the space industry. Soon, however, as engineers become more familiar with the process, it may prove practical for other areas and other industries.

One promising technique now under development is explosive welding. This is done by ramming two cleaned metal surfaces together under opposed explosive charges, which fuse the surfaces. This technique may provide a light, compact, highly portable way of welding structures together, both on earth and in outer space. It might be used, for example, to build camp structures on the moon or space stations for refueling operations. Because of vacuum conditions in space and the ease of keeping metal surfaces clean in it, lightweight strings of explosives would be more efficient than bulky gas or electrical welding equipment.

Meanwhile, even greater feats for explosive metal forming are contemplated. The next generation of rocket vehicles—starting with the Saturn series, which will rise as tall as skyscrapers on the launching pads—will have components so big that they will confound the country's transportation facilities. As parts grow bigger, a major part of their fabrication may have to be moved to the launching site. So far, only explosive forming can economically fashion parts in the sizes that will be required, and it is the only process that can be easily moved to almost any location that is out of the way.

Space engineers are also considering moving explosive-forming operations down to the sea. If proper safeguards were employed, oceans and natural lakes would provide ready-made tanks for the explosive forming of huge pieces. Already in the paper stage are plans for laying tracks down into the ocean bed and transporting huge die-and-explosive assemblies sufficiently far offshore

for safe detonation. Alternatively, there are schemes for rigging up deep-sea explosive-forming operations from a specially outfitted ship or from offshore floating barges or fixed platforms.

Explosive metal forming is not likely to be confined for long to the aeronautical and space fields. It lends itself to economical low-quantity production of experimental or quality components of all kinds. It can be turned to mass productionalthough faster and more efficient ways must be found for assembling and disassembling dies. It can be used in fabricating, economically and at one blow, very large, complex, contoured shapes. Explosive forming holds special promise for new industries requiring high-precision parts, for manufacturing heavy transportation vehicles like ships, trucks, and trains, and for molding large building and curtain-wall components.

Subway to Space

THE NEW AGE of space travel and a relic of underground travel—the subway—have been linked in a space-research project, notes *The New* Englander.

A 52-ton generator, which formerly fed power into the inner reaches of Boston's subway system, is now being used as the backbone of an outer-space study by the Lockheed Aircraft Corp., Palo Alto, Calif.

The 40-year-old unit, anchored in six feet of concrete beneath the Lockheed labs, furnishes concentrated heat to the power chamber of a high-speed wind tunnel that tests metals and other materials for space flight. It can produce enough electricity to heat air to temperatures of 4000°F. at pressures of up to 3000 pounds per square inch.



WHAT IS "DECEPTIVE PACKAGING"?

Condensed from Modern Packaging

THE ISSUE of deceptive packaging, labeling, and advertising of consumer products has exploded into national importance and headline prominence. Deceptive practices are under heavy cross-fire from consumer groups, federal enforcement agencies, and a Senate investigative committee.

Three-Pronged Attack

The battle against deceptive packaging is being marshaled in Washington, D. C. This is what is happening there and what U.S. packagers can expect:

The Senate Antitrust and Monopoly Subcommittee has been conducting a series of public hearings to probe deception in packaging and labeling. Purpose of the hearings is to determine whether shoppers can make a rational choice among competing products simply by examining the package and its label. Other hearings inquiring into

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specific practices may result in policing legislation.

The Food & Drug Administration is cracking down on such practices as slack fill, "oversized" containers, and inconspicuous or ambiguous mandatory label information on food, drug, and cosmetic packaging. F&DA seeks definitive judicial interpretations of the deception clauses in the Federal Food, Drug & Cosmetic Act and will attempt to follow up any findings of malpractice with prosecutions.

The Federal Trade Commission also is embarked on a broadened campaign against deceptive practices, involving products shipped in interstate commerce. Although FTC is primarily concerned in this investigation with advertising media, it also guards against deceptive packaging in fields not monitored by F&DA.

What Constitutes Deception?

What constitutes packaging and labeling deception under present law? To find the answer, Modern Packaging talked with authorities at F&DA, FTC, the Senate Antitrust and Monopoly Subcommittee, and the Office of Weights & Measures. Their combined opinions indicate the major targets at which exposure and corrective action are being aimed:

- · Slack-fill packaging.
- Inconspicuous placement of required label information (for example, net weight).

- · Excess package cushioning.
- Packages that are "larger than reasonably necessary" to protect their contents.
- The use, by competing manufacturers, of same-size packages containing varying product weights.
- The practice of odd, fractionalounce weights which differ from one company's package to another's and make it difficult for the consumer to calculate accurate cost-to-weight ratios.
- Introduction of "new" packages which are the same size and same price as before, but which contain less product and which do not provide an easily visible statement of content reduction.
- Misleading label information as to the number of servings in a food container.
- Confusing or contradictory use of such adjectives as "giant" and "iumbo."
- "Economy-size" packages that are sold at an equal or higher price per ounce than regular ones.

Questions Arise

How sweeping will the deceptivepackaging investigations be? What will be their effect on the trend to distinctive, uncluttered labels which help many packagers' products compete at the market place with a shelf-load of similar products on which mandatory data, including the contents statement, is relegated to small type on the back panel? What is the status of packaging that is slack filled not by fraudulent intent but by necessity—like plastic squeeze bottles that require air space for proper function, aerosol containers that are charged with space-occupying propellant, and dry cartoned products that settle in transit?

Answers to these and other questions may be derived from statements made by principals in the current investigations. Sen. Philip A. Hart, who is directing the investigation conducted by the Senate Antitrust and Monopoly Subcommittee, has said that the investigation is being conducted as much for the benefit of the overwhelming majority of honest packagers as it is for consumers.

"Too often," Sen. Hart pointed out, "we see the manufacturer of a product penalized for a forthright declaration of package content, while his competitor gains a trade advantage by not being so forthright."

The subcommittee intends to focus its investigation on the relation of price to content among products of substantially equal quality; inconspicuous placement of contents data on the label (including obscure labeling that is used to conceal a rise in real price accomplished by reducing package content); and "odd-weights" labeling.

"Insure Against Deception"

John W. Harvey, Deputy Commissioner of the Food & Drug Administration, made these comments regarding deceptive packaging: "The packager must try to insure against deception before he places his product on the market. In labeling, for example, it is not enough merely to avoid untruths; the label must tell about the packaged product in clear and unmistakable terms that will not mislead the purchaser."

Regarding new package forms, Mr. Harvey has noted: "F&DA has no disposition to bear down on improvements in packaging. However, space inside the container which is not filled with product must not be more than is absolutely necessary to make the package effective for retail merchandising." If F&DA gathers sufficient evidence to bring a charge of deception, then, Mr. Harvey maintains, "the ruling will at that point be in the hands of the courts."

Squad-Car Approach

"We're going to serve injured business and consumers with a squad car instead of a hearse." These words of FTC Chairman Paul Rand Dixon signify the intent of a broad attack on deceptive practices in the sale, advertising, and shipment of products marketed in interstate commerce. The Federal Trade Commission's new "squad-car" approach is being implemented by the following:

 Reorganization within the agency to centralize responsibilities and speed the prosecution of new cases while, at the same time, reducing the eighteen-month backlog of pending investigations.

• Increased use of the investigative powers provided under Section 6 of the Federal Trade Commission Act, which gives FTC the authority to request corporations—via mailed questionnaires to a broad segment of any given industry—to provide information on their operations,

with heavy penalties for failure to comply.

This method of investigation is intended to eliminate deceptive practices before they have a chance to become deeply rooted. It differs from past FTC practice, in which one company is singled out for legal action, with the expectati n that similar violators will profit by the experience of the one.

Foreign Corporate Abbreviations

WITH FOREIGN COMPANIES becoming increasingly well known in this country, the abbreviations at the end of their names are exciting considerable curiosity among U.S. businessmen. What do these abbreviations mean? Here are some definitions, compiled by *Investor's Reader*, as they are used in the following countries:

Germany. In Germany, AG (Aktiengesellschaft—stock company) denotes a company with a minimum of 1000 shares, and at least three directors (with one-third of them representing labor). A board of directors supervises, a board of managers rules day-to-day work. Stockholders elect directors and managers, and stockholders are liable only for the amount subscribed.

France. SA (societé anonyme—anonymous company, that is, a company not bearing the names of its principal participants, as a French partnership would) indicates a company with a minimum of seven shareholders; directors must be shareholders; president and chairman must be the same man ("président-directeur général"), who is elected by the board. A board of auditors elected by the shareholders acts as watchdog.

Britain. Ltd. means limited liability company. When it refers to a public company, it means that the firm has a minimum of seven members and two directors; it may issue public shares; its liability extends only to subscription; and it can make no loans to directors. When the initials refer to a private company, it means that it is composed of from two to fifty members, needs only one director, and costs less to form. There is no restriction on transfer of shares; there is no public subscription for shares and debentures; and the company may make loans to directors.

When You Hire a Secretary

Condensed from Business Management

A good secretary can be a priceless asset to a manager. Your secretary's value to you will depend largely on how you help her over the preliminary job hurdles.

The Hiring Interview

Problems between managers and their secretaries often begin during the hiring interview. Several top secretaries offer these suggestions for conducting that first meeting: Exchange information. At the same time you're interviewing the applicant, she's interviewing you. She needs to know, for example, how you work. Do you like or abhor details? Do you start the day with a full head of steam and taper off after lunch, or do you begin to perk at two o'clock and find yourself still going strong at five?

Be frank with your prospective secretary about your working habits. That way, she'll know what to expect, and you'll run less risk that she'll become disillusioned and leave.

Specify responsibilities. There's no universal set of duties and responsibilities a secretary "should" have. What you'll ask of your secretary will vary with your work and temperament. Make sure she knows what will be expected of her, how it is to be done, and when.

Check her skills. Don't take a prospect's secretarial skills for granted. Show her some of the typical letters and reports with which she will work. Give her an idea of the approximate volume of dictation, typing, and figure work in the job.

Then test her. Take time to give her some dictation. See how well she fares in transcription and straight typing. Make allowance for nervousness, strangeness of typewriter, and technical vocabulary, but look for a neat, well set-up, accurately spelled letter.

Business Management (August, 1961), O 1961 by Management Magazines, Inc.

Judge compatibility. One girl might be a fine secretary if she isn't taxed with heavy responsibility and decisions. Another might be very efficient, but too shy for extensive contact work. A third might thrive only in an atmosphere of tension and high pressure. The girl and the job should be compatible with each other.

Break-In Period

The break-in period is a sensitive time between a secretary and her boss. If you have planned your secretary's training, chances are that your relationship will begin and stay on a solid footing.

Clarify salaries and raises. Probably you'll have covered such topics as salary, raises, bonuses, fringe benefits, and promotions in the hiring interview.

Each of these subjects should be nailed down, however, on the first day your secretary reports, so there will be no latent misunderstandings. Whether you have leeway in establishing a starting salary or you are confined by company policy, explain to your secretary why she is being paid the salary you've agreed on. If her salary is under the average, you might want to tell her that it will take time before she develops the know-how to merit a higher salary. But make sure she understands the opportunity is there. If you're paying her more than average, be sure she knows why; she will be more likely

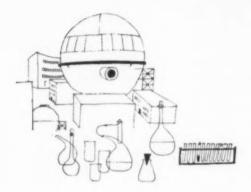
to live up to your expectations.

State the policy on raises at the beginning and stick to any promises you make. If later circumstances force you to break a promise, it's vital that you explain why.

Secretaries' Suggestions

Experienced secretaries suggest how you can break in a new secretary efficiently:

- Explain the company organization chart in terms of individual executives, their secretaries, and their locations. Clarify your own position and the closest lines of communication up and down. Let her know with whom you deal most, and for what reasons.
- Outline the different relationships of customers, co-workers, suppliers, professional consultants, etc., as their names come up. She cannot know who is important or why unless you tell her.
- Whenever you leave the office, tell her where you will be, how to reach you, and when you're coming back. Tell her how to handle specific callers in your absence.
- Most important during the break-in period is how you handle her errors. When she makes them, explain them to her privately and matter-of-factly.
- Give her your time. The hours you spend breaking in your secretary carefully and patiently will save you countless hours later on, once you and your secretary are operating as a smooth team.



A Strategy for Corporate Research

By James Brian Quinn

Condensed from Harvard Business Review

o company can be pre-eminent in all technological fields. Because of limited resources, a company can pursue only some research projects and must disregard others. Which research risks shall a company accept? Which opportunities shall it pass up? To answer these questions. a company must have a research strategy. This consists of establishing, in the light of expected competition, where the company should concentrate its research efforts, where merely keep in touch with the scientific community, and where ignore developing technology.

As a first step in developing a research strategy, the company

must minimize serious technological threats to its existence. As a starting point, it looks at positions that must be defended at all costs. Then it saturates these areas with research programs. Almost every company has a few "bread and butter" lines or processes. These must be defended with strong research commitments until design maturity eliminates returns from research or the company decides to discontinue the products or processes themselves. A company must carefully forecast customers' technological needs and watch competitive programs; these steps will indicate those areas that need heavy developmental and ap-

Harvard Business Review (July-August, 1961), © 1961 by the President and Fellows of Harvard College plied research. Assessing the limits of knowledge supporting these areas helps to determine the direction for longer-range research efforts.

Grapevine Programs

Research strategy must also insure that sudden scientific advances related to a company's field will not catch the organization by surprise and demolish a major segment of its business, and that the company does not overlook exploitation opportunities offered by scientific developments in new areas. "Grapevine" or "connecting" programs keep the company aware of technological developments so that, as major advances occur, it can move rapidly to force competitors to cross-license otherwise damaging technology-or it can develop market positions for itself and, at the same time, avoid pre-emption by competitors.

Research groups in each "connecting" area must be staffed with first-rate men who can be on the informal grapevine that exchanges scientific information freely. Men of such caliber must themselves make contributions to the scientific community, and the company must allow them maximum freedom to publish and to participate in scientific meetings.

Research can support a given strategy in many ways; it is up to top management to specify which types of support it expects. Is the research organization to be a highly skilled pool of specialists available to answer problems beyond the talents of divisional personnel? Is it to be a scientific "intelligence service" to keep the company aware of technological threats or opportunities outside the sphere of traditional operations? To what extent is research technology to provide new product growth, new processes, or a general technological reputation for the company? Answers to such questions are crucial in designing a research program that best fits the company's needs.

How Much to Spend?

Once the research mission is identified, the next step in developing an integrated research strategy is to establish how much to spend on the total research program and each of its elements. While no one formula exists for determining the "right amount" to spend on the R&D program, three common guides are used in attacking the problem: a percentage of sales or capital base; a growth-rate standard (for example, increasing research expenditures 5 per cent per year to obtain a 5 per cent company growth rate); and matching or exceeding competitors' total expenditures. However, the most prevalent (and successful) approach is individual program analysis, with other criteria used only as general checks on judgment. Individual program analysis builds the program from the bottom up, by ranking each project on how it will fulfill company goals. The best

projects are then supported up to the limits of available personnel and capital.

Project Selection

Project selection consists of planning technology for present products, for foreseeable new products, and for entirely new applications.

Present products. The process begins by assessing the technology needed to support present lines two to ten years in the future-what will keep the products attractive to customers in the face of substitute items, competitive technology, and changing customer needs. Planners then compare present technology with needed technology and identify the gaps. If enough key facts are available to fill these gaps, defensive development or applied programs can be introduced (or continued) to fulfill established needs in the shortest possible time (usually within two to five years). But if key facts are missing, the company will have to undertake supportive, fundamental studies to supply researchers with basic technological data,

New products. The next step is to find new market applications for present or new technology and then identify the specific technology needed to fulfill these applications. The needed technology is again matched against present technology and the gaps noted. As before, the gaps can be attacked by either of two methods—development or supportive research.

Fundamental research. The company may need technology with which to develop new product applications beyond the scope of those presently foreseen. The company then needs a fundamental-research program. Here, the planning process is reversed. First, technical planners must identify scientific areas that may give rise to commercial end products compatible with company goals. Within these areas, management's support of specific projects should be based on:

- The rapidity with which technical advances are occurring.
- The competence and enthusiasm of company personnel in the particular field.
- The availability of qualified persons to staff research areas new to the company.
- The anticipated amount of information yet to be discovered in an area.

Each researcher should be encouraged to select his own specific inquiries within his specialty. Management's task is to make sure that the specialists' judgments are tempered by those of research executives who understand company goals and needs. For maximum research productivity, the company must also provide a stimulating research atmosphere and the broadest possible commercial base for exploiting ideas in any given field. Finally, an effort must be made to recognize and utilize significant research results as they occur.

GROUND RULES FOR USING

COMMITTEES

Cyril O'Donnell

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A CAMEL, someone has said, is a horse designed by a committee—and this is fairly typical of the current attitude toward this form of group activity. The use of committees has been criticized as a way of avoiding individual executive action, as a means of covering up managerial inadequacies, as a form of inefficient corporate "togetherness," and as a device for legitimizing procrastination and indecisiveness. What's more, every one of these accusations is justified, at least in many cases.

What is frequently overlooked, however, is that these are not valid criticisms of committees, but rather of the *misuse* of committees. For a committee that can be charged with any of these faults is not being employed as a committee should be used. Committees do have legitimate functions and, properly used, they constitute an invaluable management tool. The question is, how should they be properly used?

One common error is the confusion of committees with other kinds of joint action. Many people apply the term "committee" to any meeting of two or more people, but this definition is obviously too flexible and imprecise. It would necessarily

A MANAGEMENT REVIEW SPECIAL FEATURE

include such diverse activities as business conferences, staff meetings, meetings of department heads, executive committee meetings, and even luncheon engagements, all of which are designed to serve quite different purposes. Conferences and typical staff meetings are primarily communication devices, utilized for economic purposes; a meeting of department heads may be called to clear up snags or overcome delays in some area that concerns all of them: meetings of an executive committee on which the president sits are held primarily for communication purposes. In none of these instances does a true committee exist.

The True Committee

What, then, is a committee? We might define it as two or more persons appointed by their immediate superior for the purpose of acting or advising their superior about a subject that is not clearly within the competence of any of them.

This implies that the superior does not sit in on the committee meetings; that the membership is confined to two or more of his immediate subordinates; and that the subject matter to be considered is not within the assigned duties of any individual member. Such a committee is properly considered an organizational device because it is performing an activity that, for various reasons, is not otherwise assigned. It may or may not have authority to

take action, and it may be either an *ad hoc* group or a permanent committee.

Basic Requirements

The proper use of committees is based on two fundamental assumptiens. In the first place, it assumes that the structure of the enterprise and the association of activities in this structure conform to the principles of good organization. Experienced business managers recognize that it is not possible, even in a wellorganized company, to cover all types of activities or to assign all duties to specific individuals. Even when it is possible to make such assignments, they sometimes prefer not to do so. The important point is that the committee device is not a crutch for poor organization structure—it supplements good structure.

The second basic assumption is that the enterprise has effective managers. Too often the committee device is used to supplement and buttress inefficient men. The use of a committee to support mediocrity in management is an extremely poor and even dangerous device. True, it may sometimes be necessary in the short run. But this situation should be clearly recognized, and vigorous efforts should be made to achieve good organization and employ effective managers as quickly as possible.

The one time when a committee can be legitimately used—and the only circumstance in which its use can be justified—is when it can do a job better than a single manager. This means that the net effect must be superior in the light of such factors as cost, time, decisiveness, justice, and sound judgment.

Pooled Experience

There are three situations in which a committee may meet this criterion. To begin with, a committee is a sound organizational device when it is used to obtain the considered views of subordinates about a subject beyond the experience of their superior. If the superior has the breadth and depth of experience represented by the members of a committee, it is obvious that he has no need of group action. Lacking this experience, the superior might conceivably ask for the advice of individual subordinates without organizing a committee. This is quite often done-as, for example, when an executive calls on a department or division manager for his views on a particular subject. Quite often, however, such an informal approach will result in the subordinate's giving views that are narrow in conception and not fully considered. As a member of a committee, the same subordinate would frame his views with an eve to potential questions or criticism of his fellow members, and he would thus be likely to be less extreme and insular in his viewpoint.

A good example of this kind of committee is the typical policy com-

mittee, whose purpose is to formulate policy to best fit the needs of the enterprise. For example, the question in the mind of the president may be, "Do we need a policy on pricing, and, if so, how should it be framed?" If he has come up through engineering or production, the president may lack the technical knowledge and experience required to decide a matter of this type. Consequently, he would find it advisable to refer the matter to his policy committee. The members of the committee would develop their views, not only with respect to special interests of the divison or function they represent, but also from the viewpoint of the welfare of the company as a whole. Their considered views would result in a consensus, which they would report in the form of a recommendation to the president. In this instance, the committee would be acting in a staff capacity, and it would probably be a standing committee.

Too Much Power

A second appropriate use of a committee as an organizational device is to exercise authority that is too great for any one man. The authority may be considered too great because it requires broader knowledge than any one man can be expected to have, because there is too much risk of bias or prejudice, or because it is difficult to find a person willing to exercise the authority. Good examples of such

committees are investment committees, wage-and-salary committees, and boards of directors. It would be unusual to find a treasurer or a chairman of a board of directors who would be willing to take it on himself to decide how the surplus funds of a firm should be investedand, indeed, it is likely to be too risky for the firm to rely on the judgment of any one man. Similar considerations are involved with respect to the wage-and-salary committee and the board of directors. which is a committee representing the stockholders. Committees of these types are standing committees that are delegated line authority. They make decisions on a majority basis and are true "plural executives."

Spreading Responsibility

A third appropriate reason to use a committee as an organizational device is to diffuse responsibility among several executives. Very often it is undesirable to pinpoint responsibility for action on one person. A good example of this type of committee is the bonus committee, which determines the exact distribution of a fund among the qualified members or recipients. Although the total amount of a bonus fund may be expressed in terms of a percentage of profits before taxes, the method of distributing the bonus is not always directly related to the salaries of the potential recipients; distribution is frequently made on

the basis of an evaluation of their contributions to the company in the past year. One manager might well find the assignment of making this evaluation very uncomfortable, and he would be the target of complaints and accusations from those who felt that they were unfairly treated. When a committee is used for this purpose, responsibility is spread among the members, and disappointed recipients are less disposed to complain; they are more likely to be satisfied that no bias or prejudice was involved in the decision of a group.

A committee of this type is likely to be an *ad hoc* group, and it normally has a staff position with respect to the chief executive officer. However, at the option of their superior, the committee may be delegated line authority to act in the situation.

Committee Operation

Three important elements are necessary to make committees truly and effectively operational. First, the purpose for which the committee is being established must be distinctly defined. A written statement will help to achieve clarity, and it will eliminate the need for committee members to spend time deciding exactly what they are supposed to be doing.

Second, the authority of the committee must be clearly specified. This is an easy matter, but it should be given careful attention. The com-

mittee may perform a staff function, having authority only to investigate and recommend to their superior, or it may be given authority to make decisions. Which is the case must be clearly determined and communicated.

Finally, the chairman of a committee should at all times be appointed on the basis of his ability to conduct an efficient meeting. Efficiency requires that the chairman prepare an agenda in advance so the members will have time to study the subject and consider their views. It means that the chairman must insure that all members are heard from, encouraging the reticent and keeping the loquacious in check. When all the contributions of the members are in, he should state the consensus of the meeting to be sure that he has properly understood it, and he should see that minutes of the meeting are distributed in rough form for correction and review prior to their final distribution.

If these points are given adequate consideration, management can be

sure that its committees will operate effectively.

An Annual Checkup

It is an efficient practice for a company to make an annual audit of its committees, evaluating each one to determine whether it can be justified as an organizational device. If any existing group fails to meet one of the three basic purposes of committees, there is a serious question of its legitimacy.

As this audit is conducted from year to year, managers will gain a thorough understanding of the appropriate use of committees. They will shy away from using committees as crutches for inadequacies, as excuses for delay, or as devices to shift decision-making responsibility, and they will learn to use them to do the jobs for which they are uniquely suited.

When this has been accomplished, the committee will have attained its proper and respected place in the organization structure of the enterprise.



Insuring Your Foreign Operations

By Ernest L. Clark

Condensed from Best's Insurance News

As a corporation expands to foreign countries via subsidiaries, branches, divisions, and affiliates, it must insure that its interests are properly protected. Thus a careful examination of its foreign-operations insurance is essential.

The procedure for protecting foreign operations cannot be stereotyped. Insurance must be tailormade for each organization according to its individual problems. The direction it takes depends on many factors.

Local Laws

One factor is the country involved. Each country has its own insurance laws, some of which restrict the freedom of action in buying insurance. In Mexico, Costa Rica, and Peru, for instance, insurance must be purchased only through insurance companies domiciled there. In some other Latin

American countries, it is illegal to buy insurance in other than domestic companies or foreign insurers permitted to do business in the specific country.

The handling of foreign insurance also varies with a company's tax setup. If, for tax purposes, a company divorces foreign operations entirely from domestic operations, care must be taken that the insurance is completely segregated. A company must decide whether to pay premiums in American dollars and collect losses in the same medium, or pay premiums in foreign currencies and collect losses that way.

If insurance is placed here and losses collected here to replace losses sustained in a foreign country, a corporation may have to pay a capital-gains tax on what it receives. The company must also be sure that the cost of this insurance will be a chargeable expense. Some corpora-

Best's Insurance News (July, 1961) @ 1961 by Alfred M. Best Company, Inc.

tions have found it difficult to get the Internal Revenue Department to approve this expense. It all depends on how the corporate structure and accounting are organized.

Stateside Insurance

Where a corporation's stateside insurance is placed often affects the manner in which its foreign insurance is handled. Some large U.S. brokers, for example, have correspondents or branch offices providing excellent service in many countries. This service often incudes engineering, appraisal, and claim handling. Other brokers use U.S. contacts equipped to give them these facilities, such as the American International Underwriters (a managing general agency that writes insurance aboard for several companies). the American Foreign Insurance Association (an association of many large companies providing coverage abroad), and individual insurance companies writing world-wide coverage.

Foreign Construction

The type of construction of foreign plants—and principally whether or not they are sprinklered—has an important effect on how foreign insurance is placed. In England, for instance, most local companies do not install sprinklers in their plants, since the local insurance market does not recognize the fire-prevention advantage of sprinklers in its insurance rating. Therefore, the U.S. insurance market may be the best source for property insurance of sprinklered facilities.

Factory Mutuals have extended their facilities to some countries, and are gradually providing broad insurance coverage, engineering, and claim facilities similar to those they furnish in the United States. Where insurance in this country is placed with the Factory Mutuals and the foreign plants are sprinklered—and where a corporation's tax structure permits it—one blanket coverage can include both U.S. and foreign plants.

Liability Insurance

Most foreign insurers do not provide the broad forms of liability insurance the U.S. market offers. Some U.S. insurance companies, however, extend this coverage abroad. Of course, in certain countries, automobile insurance must be written locally to comply with the local motor-vehicle laws.

Public-liability insurance stateside is always written with limits. In England, however, bodily-injury liability and automobile insurance are written without limits, but the coverage is not as comprehensive. Most umbrella-insurance policies are written to cover world-wide, which is a distinct advantage. So far in foreign countries, liability claims have not reached the proportions they have attained here, but the situation abroad has started to catch up with the American one. A must for any corporation producing an item that is eventually used by the public—no matter how far from the site of actual consumption the manufacturer may be—is products-liability insurance. Recently in Holland, one U.S. corporation selling a food product was faced with a tremendous number of liability claims of all sizes. Regardless of local practice and the local availability of some forms of insurance, a company must take the necessary steps to insure adequate coverage.

The practice of providing group insurance for employees is not universally extended to cover foreign employees. Some companies just follow the local practice in each country; others extend their benefits only to U.S. employees—particularly executives—operating the foreign facilities; others have different

approaches. Arrangements are best tailored to each individual situation.

Control

One problem, where insurance is placed locally through the foreign office, is for the home-office executives to maintain control over the insurance program. One solution is to have an annual report made on insurance carried locally, and another is to have all policies cleared at the home office of the corporation. In the latter case, a further problem is that of translation and interpretation, for insurance terminology varies in different countries. Even English policies have words that mean one thing in England and another in America. This suggests the advantages of placing insurance through a U.S. broker who can provide assurance as to the precise meaning of a contract.

Reorganizing for Sales

COMPANIES ARE REORGANIZING their sales and marketing organizations to provide a harder-hitting, faster-moving, and more effective sales operation, reports the National Industrial Conference Board, as a result of its recent survey of 168 U.S. firms. The NICB found that significant changes in company marketing departments have been made in the past several years by 75 per cent of the respondent companies.

Prompting most of the changes is an increased emphasis on the broader concept of marketing (as contrasted with sales administration). As a result, line sales management in many companies has become more closely coordinated with such related functions as product planning and testing, advertising, marketing research, statistical analysis of sales, and forecasting and measurement of market potential.

If Disaster

Strikes ...



Condensed from Chemical Engineering

A FIRE BROKE OUT in the pumphouse of Stardust Chemical Co.'s plant on the outskirts of Westfield. It spread to the chemical-production and utilities blocks, caused the explosion of two tanks, and started to spread further.

On the road bordering the plant's main gate, several motorists noticed the fire and stopped to watch. Some continued into Westfield, where they spread the news. At the plant, the fire squad soon realized that it needed additional help to fight the fire. The plant manager tried to phone the Westfield Police and Fire Departments and neighboring plants, but contact was delayed because the Stardust switchboard became jammed with incoming calls inquiring about the fire. These agencies eventually were reached, however, and promised to send help.

Reporters from the local newspaper and radio station arrived to investigate. No one from plant management was available to talk to them; finally, they got stories from two injured workers who had been brought to the plant gate. Confused and exaggerated accounts were broadcast, and the roads and switchboard became all the more jammed by concerned relatives of the employees and by curious townspeople.

Fire-Fighters Impeded

The police arrived to set up roadblocks, but they found that the roads already were blocked by sightseers. This congestion considerably delayed the arrival of the Westfield and industrial fire squads and ambulances. When the outside fire fighters finally reached Stardust, they were further delayed by their

Chemical Engineering (August 7, 1961), @ 1961 by McGraw-Hill Publishing Co., Inc.

lack of familiarity with the plant roads and by employees standing around watching the fire.

After several hours, the fire was brought under control. Property damage was estimated at more than one million dollars. Several men were injured—some with permanent disabilities. It is difficult to access the losses in sales and permanent business resulting from the shutdown period for the chemical-producing units. No alternate sources of product are available for Stardust to supply its customers, and many of the damaged pieces of equipment are long-delivery items.

Stardust Chemical Company is, fortunately, an imaginary operation. But its disaster—conceived by the staff of Chemical Engineering and discussed recently by a panel of disaster-control authorities—could be real for a company faced with a major fire. What should Stardust have done? What can it do in the future? Panel members, assuming the following roles of company and community officials, offered their suggestions:

• Safety Director, Stardust Chemcal Co.: We can prevent a recurrence of this disaster with a threefold program, including a process audit, personnel training, and property-protection plan. Before we restart any of our units, we should audit each process to uncover unsafe practices. We must repeat such an audit at least semiannually or any time we change operating conditions or relocate an operation. The audit should be conducted by the plant manager with the cooperation of operating, maintenance, design, and safety personnel.

Safety training is a must. It should include a safety-training seminar for supervisors; on-the-job training of all personnel should become mandatory.

The recommendations from our central safety office, our insurance carrier, and our own engineering personnel must be reviewed, and a program to protect our property with automatic devices developed. And our plant fire-brigade members have made many suggestions for training all personnel in the techniques of fire control.

• Representative of neighboring plant: Many industrial communities have mutual-aid programs; such a program would have helped us here and would be of immense value in the future.

In a mutual-aid plan, assistance by the members is made available to any member with an emergency beyond his ability to control. The membership can include local and industrial fire departments and other agencies, as well as the newspapers, the radio station, medical personnel, and ham-radio organizations.

An important aspect of the plan is communications. Stardust had trouble contacting the police and fire departments and other plants. Under a mutual-aid plan, the communication pattern is prepared and practiced before any incident occurs; in an emergency, a single call by telephone or radio will alert the members and bring the assistance needed.

A list of what is available from the various members is kept by the mutual-aid organization; when a particular piece of fire equipment, a rescue team, or an ambulance is needed, the group knows where it is and can route it to the scene.

We can form a mutual-aid organization in Westfield. Many organizations can help us set it up—industry, government, and service groups—and the Office of Civil Defense Mobilization can give us a list of such groups to contact.

Of course, a paper plan is not enough. A drill is important, because it gives us the chance to work out the "bugs" so that we will operate smoothly and effectively when the real thing occurs.

• Westfield Police Chief: Unless the roads are clear, outside help can't get to the plant. A plant should help us, ahead of time, to work out a roadblock plan in case of emergency. And we should establish, with the entire mutual-aid group, a special telephone at police head-quarters to be used only for the master emergency plan. The number should be unlisted and should be available to designated personnel at each plant.

Then, when an emergency strikes, Stardust should dispatch personnel to the nearest roadblock designations until the police arrive to relieve them. At the same time, the plant should telephone police headquarters immediately by the emergency telephone number.

The plant, or the mutual-aid group, should already have issued special passes to selected personnel trained to handle the emergency. This pass should be easily recognizable, and would allow the bearer to pass through the police lines. Nobody else should be allowed into the danger area. If a new shift is due to report to work, say, in another part of the plant where there's no danger. they should assemble at designated areas outside the plant. Then they'll be escorted through the roadblock in large groups so they and their cars don't hinder emergency operations.

• Public Relations Director: When a disaster occurs, the news media can be a blessing or a plague, depending on how they're handled. Stardust didn't handle them at all. Good planning would have made it the duty of the industrial-relations department to meet the reporters, give them a statement, and guide them to safe vantage points.

Radio and TV stations could be asked in advance to provide a common loop over which plant management could broadcast what was actually happening, what the danger was, and what was being done, and to request the public to help by staying home. Communications in emergencies consists of getting the right word to the right people quickly and accurately.

• Stardust's Corporate Management: Our biggest single error was the failure of top management to endorse emergency- and disaster-control activities.

We're creating a new program at Stardust. The first step will be to establish two management committees in the plant: an administration committee, made up of top plant management people, and a subordinate work committee.

The administrative committee will meet monthly and will include the plant manager (as chairman), the operations superintendent, the chief engineer, the director of industrial relations, and the disaster-control coordinator. This committee will be the policy group for disaster control and will be responsible for formally approving all in-plant emergency procedures.

The subordinate work committee will meet every other week, and will be responsible for actually administering the in-plant program. It will be chaired by the disaster-control coordinator, and will include the safety director, maintenance superintendent, operations superintendent, and plant-protection supervisor.

This group will be responsible for implementing the entire program with a workable schedule of training activities, selection of disastercontrol personnel, and the coordination of our plant activities with other plants for organized mutual aid.

We will ask each superintendent to assign his subordinates to disaster-control positions within his own department. He must visualize every conceivable potential disaster and prepare step-by-step control procedures. Then he must prepare a department layout that will show his process equipment and evacuation routes.

We will develop departmental communication procedures. We will organize emergency crews on each shift—composed of men who can be released from their assignments to answer any emergency alarm. We will establish a disaster-control center—which will be our communications center, too—at a strategic point. In it, we will have a telephone central, a radio transmitter, an alarm-system control, and all the tools necessary for efficient command.

We will prepare a manual containing all pertinent operating instructions, the duties and responsibilities of all members of our organization, a mutual-aid directory, and the departmental emergency procedures. We will use this manual to keep all our employees well-informed on disaster control. All employees must understand their duties, degree of authority, and their responsibilities before, during, and after a disaster.

From now on, preparedness is our watchword.

Quality Bones

AT THE RECENT annual convention of the American Society for Quality Control (an organization of technicians and engineers concerned with product specifications), one surprise participant was the representative of the Golden Nugget, a gambling casino in Las Vegas.

Why was he there? The casino's problems of quality control, reports Newsweek, are just as complex as those on a defense assembly line. Explains the Golden Nugget's representative:

"There must be absolute uniformity down to the last spot on our dice. Our dice come from the factory meeting rigid specifications, yet we discard 12 per cent. We check their sizes with calipers, spin them to test balance. They have to be symmetrical and flat to ten-thousandths of an inch. In play, if a die hits a silver dollar or falls on the floor, we throw it out."



"Well, there goes our corporate image!"

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The Commerce Department's New Services to Business

Condensed from Foreign Commerce Weekly

S WEEPING organizational changes within the U.S. Department of Commerce—changes of special significance to U.S. businessmen—were announced recently by Secretary of Commerce Luther H. Hodges.

To make the Department more effective in its international activities, the Secretary has established a Bureau of International Business Operations and a Bureau of International Programs—both under the direct supervision of the Assistant Secretary of Commerce for International Affairs. These two Bureaus replace the Bureau of Foreign Commerce.

Expanded Services

The Bureau of International Business Operations will provide expanded services to U.S. businessmen to assure accelerated growth in export trade. It will concentrate on the following activities:

- Expanding participation by private enterprise in U.S. foreignaid programs.
- Identifying opportunities for foreign investment in the United States (particularly in distressed areas) through close cooperation with the Department's Area Redevelopment Administration.
- Publishing up-to-date information on trade and investment opportunities, marketing techniques, business practices, and world trade opportunities.
- Encouraging greater participation in international trade fairs by more corporations and thereby accelerating promotion of U.S. products.
- Increasing trade missions sent abroad.
 - Establishing more trade cen-

ters where they can do the most good in showcasing U.S. industrial output.

 Collecting information on trade opportunities and calling them directly to the attention of U.S. businessmen.

International Programs

The Bureau of International Programs will include the Office of Regional Economics, the Office of Export Control, and a new Office of Economic Programs. The first two have essentially the same functions they now have under the Bureau of Foreign Commerce. They will have wider responsibilities, however, in supporting the foreign economic policies of the government in matters of regional economic affairs and East-West economic relations.

The Office of Economic Programs will be the center for more vigorous participation in formulating U.S. foreign economic policy. This office will be concerned with the international trade policy of the U.S.; international commodity problems; international financial policies; and problems of changing legislation abroad affecting U.S. private establishments.

The Bureau of International Programs will provide a sound, economic-oriented source of information and analysis on developments abroad and on U.S. foreign economic and commercial policies. It

will backstop the Secretary and his staff in their efforts to achieve the most appropriate governmental policies.

Business and Defense

Within the Business and Defense Services Administration, two new offices have been created.

The Office of Industrial Growth and Research will concern itself with broad technical, economic, and statistical studies of the effect of technological change, automation, mechanization, and basic and applied research on U.S. industry.

BDSA's Office of Economic Programs will initiate broad studies of U.S. industry and business, emphasizing national economic growth and increased production. Its major concern will be the relationship of U.S. business and industry to the world industrial balance of power.

Several industry divisions within BDSA have been combined to improve the effectiveness of their service to business. The Scientific, Motion Picture & Photographic Products Division and the Business Equipment & Services Industries Division have been combined into the new Scientific, Photographic and Business Equipment Division. The Construction Industry Division and Building Materials Division have been combined into Building Materials and Construction Industries Division. The Power Equipment Division and the Electrical Equipment Division have been combined into Power and Electrical Equipment Division. The Leather, Shoes & Allied Products Division and the Textiles & Clothing Division have been combined into Textiles and Leather Division. The total number of divisions is now 21 as compared with the former 25. For a more effective administration, the industry divisions have been subdivided into three groups: Industrial Ma-

terials, Industrial Equipment, and General Products and Services.

"I have high hopes for the new organizations," Secretary Hodges said. "They should satisfy a growing insistence by American businessmen for improved services, The renewed emphasis will put the Department back where it belongs in the echelons of government and in the esteem of the international business community."

Leasing Surplus Space

WHEN MOTOR WHEEL CORP. moved its consumer-products production into modern, new facilities two years ago, it put up for sale the two-story, thirty-year-old plant formerly used for the operation. But, reports *The Wall Street Journal*, the company—after a year of trying—was unable to sell the old plant.

Late last year, Motor Wheel solved its problem. It divided the 800,000 square feet and offered to lease space to other firms for five to ten years. The plant is now half occupied by tenants ranging from a discount department store to light-manufacturing operations; the building is already running in the black; and the company expects it to be fully rented soon.

Motor Wheel's tactics in coping with surplus real estate are being used by a growing number of manufacturers who have moved from older plants in cramped city locations to modern plants in outlying areas. Most of these moves have been dictated by the use of new automatic materials-handling and production machinery. Mergers and geographical shifts of industries have also emptied many factories.

Space in a subdivided factory appeals mainly to small firms just getting started. Rents are relatively low and the plants generally are handy to labor, suppliers, and markets. "These buildings," notes a plant-location specialist, "act as incubators for many small businesses which subsequently become large."

ALSO RECOMMENDED





GENERAL

HOW ETHICAL ARE BUSINESSMEN? By Raymond C. Baumhart, S.J. Harvard Business Review (Soldiers Field, Boston 63. Mass.), July-August, 1961. Reprints \$1.00. What do you think about an executive earning \$10,000 a year who has been padding his expense account by \$500 a year? . . . an executive owning stock in a company with which his own company regularly does business? . . . the idea that management should act in the interest of shareholders alone? These problems were posed as part of a lengthy questionnaire on business ethics completed by about 1700 executives, reports the author of this breakdown of questionnaire and interview results. One highlight: Though executives are alert to social responsibilities of business when expressed in general terms, they often disagree about the ethical thing to do where specific business practices are concerned.

KENNEDY AND THE BUSINESSMEN. By Joseph R. Slevin. Dun's Review and Modern Industry (99 Church Street, New York 8, N.Y.), August, 1961. 75 cents. So far, business has seen few major changes under the new President, but the shape of things to come is an-

other matter—and it is slowly emerging as the Administration draws up its plans for 1962. The author not only discusses such matters as the administration's policy of dealing with labor disputes, how Kennedy will divide the anticipated budget surplus, and what he will do about revising tax laws, but also the line regulatory agencies will take with business, the coming battle over public vs. private power, and the degree of acceptance Kennedy has won for his measures up to now.

MILLIONS IN GIFTS FOR HEALTH, EDU-CATION. AND WELFARE. By Robert E. Cubbedge, Newsweek (444 Madison Avenue, New York 22, N.Y.), August 28, 1961, 25 cents, U.S. business this year will give over 400 million dollars toward the health and welfare of the nation and the world-nearly eight times its annual charity outlay a decade ago-according to this article, which gives a rundown on how much various companies give, and to whom. Although some companies merely "write checks." others provide help and advice as well for people in a community. One company, which last year donated six million dollars, made a study of a depressed area and found the

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land and climate suitable for growing strawberries; the company distributed seeds to 4-H members, with the result that strawberry growing in the area today is a million-dollar business and the company's business was never better.

MANAGEMENT—A LOOK BACK, A LOOK AHEAD. By Peter F. Drucker. Mechanical Engineering (29 West 39 Street, New York 18, N.Y.), July, 1961. 75 cents. Taking a look at the decade 1910-20, when modern themes of management came into prominence, the author notes that one of the first questions raised—that of the individual in the plant community and the industrial organization—was the last one to be tackled by modern management thinking. The focus of traditional approaches, which considered the enterprise itself as a sort of extension of top management, must be

shifted, he maintains, to take into account the effectiveness of decision-making at all levels. In a look ahead, he raises questions concerning the training of managers, the limits of manageability, and a code for management.

HOW TO PICK A SITE-SCIENTIFICALLY.

By Frank L. Whitney. Business Management (22 West Putnam Avenue, Greenwich, Conn.), September, 1961. Reprints 50 cents. Using a hypothetical company that is looking for a lab site as well as a plant site, the author shows how a point rating system can be employed to compare, evaluate, and weigh alternative locations. In demonstrating how five possible sites are rated—three for the lab, two for the plant—he takes into account not only labor, taxes, and land cost, but also such factors as schools and convenience of family shopping.

OFFICE

HOW TO BUY COLLATORS. Modern Office Procedures (812 Huron Road, Cleveland 15, O.), August, 1961. 75 cents. This article tells how to use collators to free clerical workers from tedious manual work and explains how to go about selecting the right collator for a particular job. A chart gives specifications on automatic, semiautomatic, and manual collators; it includes manufacturer's name, model number, number of stations, sheets per station, sheet size, weights of paper, speed, type of feed, operation, dimensions, price, and attachments.

MANUAL OF BUSINESS FORMS. By Wallace B. Sadauskas. The Office (232 Madison Avenue, New York 16. N.Y.), August 15, 1961. \$4.50. This special, 236-page issue is a guide to various kinds

of business forms. After a short discussion of business forms in general, it takes up forms design, carbon paper, carbonless paper, forms-handling equipment, manifold books (salesbooks), tag forms, pegboard forms, stock forms, machine accounting forms, check forms, duplicating masters, marginal punched cards, one-time carbon unit sets, continuous forms, envelopes, paper used in forms, forms copy preparation, forms management, and automatic data-processing.

MICROFILM: A VITAL LINK IN OFFICE PROCEDURES. By Lawrence Victor. Administrative Management (212 Fifth Avenue, New York 10, N.Y.), August, 1961. 45 cents. Microfilm's ability to compress bulky items to a mere fraction of their former size and weight is a

continuing wonder, and when used properly, can be a blessing to the office. The author not only discusses advantages of microfilm and tells how to go about setting up a microfilm installation, but also gives detailed information on micro-

film cameras and microfilm readers. Included is a list of the principal manufacturers of microfilming equipment and suppliers of microfilming services as well as a check list for determining whether a company should use microfilm.

INDUSTRIAL RELATIONS

TWO WEEKS IN A T-GROUP. By Spencer Klaw. Fortune (Time & Life Building, Rockefeller Center, New York 20, N.Y.), August, 1961. \$1.25. A T-Group is a unit made up of trainees in a humanrelations laboratory, where participants are encouraged to give one another what can amount to rather stiff psychological buffeting in studying their own and others' behavior. The author, who gives a blow-by-blow account of a T-Group in action at Arden House, N.Y., concludes that an opinion about T-grouping depends on how one feels about the propriety of intimate conversations staged under institutional auspices and with a tape recorder running; on one's tolerance for talk about helping and caring and adventures in growth; and on the degree to which one shares the assumption, seemingly held by many people who

serve as trainers at human-relations laboratories, that there is not much wrong with the human condition that a little social engineering cannot cure.

OF PIGEONS AND MEN. By Owen Aldis. Harvard Business Review (Soldiers Field, Boston 63, Mass.), July-August, 1961. Reprints \$1.00. A pigeon in an experimental cage, a worker on an assembly line-how alike are their motivations? The author of this article speculates that they are rather much alike. and his comparisons lead him to advo-'cate a number of practices for business to follow. In general, he is for motivation of men by positive rewards (but he mentions only material ones) rather than by negative inducements; specifically, he calls for payment on a piece-rate basis, rather than by wages.

MARKETING

WHAT WILL 1970 BE LIKE? By Hector Lazo. Printers' Ink (635 Madison Avenue, New York 22, N.Y.), July 21, 1961. 35 cents. U.S. marketing men are looking ahead to the most prosperous economy ever by the end of this decade—more people, more needs, more markets. But how closely have they analyzed it? According to this breakdown of the 1970 U.S. market there will indeed be 30 million more people in 1970, but more than half of them will

be under 18 or over 65—age groups with the lowest average incomes. A chart shows how the U.S. population is changing by age group and numbers in regions and in selected states.

WHAT TEN TOP EXECS DEMAND OF THEIR AD AGENCIES. Sales Management (630 Third Avenue, New York 17, N.Y.), July 21, 1961. 50 cents. How do marketers rate current advertisingagency services? Interviews with ten leading marketing men indicate that some wish they were confined to good old basic advertising, while others want service all the way from market research to participation in sales meetings. The most popular service, market research, was mentioned by even the most conservative companies, and a definite trend showed up: Marketers are taking their agencies more deeply into corporate confidence and are giving them a more active role in strategy planning.

PACKAGING WITH FOIL. By Richard Burton. Industrial Design (18 East 50 Street, New York 22, N.Y.), August, 1961. \$1.50. Aluminum foil is a valuable packaging material, both from the standpoint of protection and of appearance, according to the author, who discusses advantages and specific functional and decorative applications of the material. He gives ten cases, illustrated with photographs, each of which shows how foil was especially appropriate for packaging

a particular product because of one of its properties: It is impermeable, hygienic, gas resistant, greaseproof and oil-proof, pliable, dimensionally stable, and highly conductive and reflective—and it serves as a barrier against light and contamination.

MEASURING READINESS TO BUY. By William D. Wells. Harvard Business Review (Soldiers Field, Boston 63, Mass.), July-August, 1961. Reprints \$1.00. Results of readiness-to-buy measurements of consumers should be viewed both as predictors and as market data worthy of independent consideration, according to the author, who explains how they can be used to give an advance sign of the success or failure of a marketing plan or to "trouble shoot" when sales do not respond as expected. He closely examines differences in degree of various consumer predispositions and shows how to compare results so that marketers can pinpoint the source of the trouble.

FOREIGN OPERATIONS

WHY BRITAIN CASTS ITS LOT WITH EUROPE. Business Week (330 West 42 Street, New York 36, N.Y.), August 12, 1961. 50 cents. Two main causes lie behind Britain's break with tradition: (1) In isolation from the Continent, its trade oriented to the Commonwealth. Britain let its economy grow sluggish while the Continent boomed, and (2) aside from purely domestic economic reasons, Macmillan felt that the West must be united in facing the cold war threat and that a British merger with the EEC would help strengthen the Alliance. This article examines steps leading to the break as well as world-wide repercussions, including France's reaction, the effect on U.S. business, and various problems that are raised.

RAPID GROWTH OF COMMON MARKET SPURS IMPORT DEMAND. By Walter Buchdahl. Foreign Commerce Weekly (Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.), July 31, 1961. 30 cents. There has been no major trading area that has not benefited from the European Economic Community's economic growth, although the growth of intra-trade has been more pronounced than the growth of imports from areas outside the Common Market; further growth, at a somewhat slower pace, is expected for the immediate future. The author gives a breakdown of growth in the various member countries of the EEC, as well as a breakdown of imports from countries outside the EEC.

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SURVEY OF BOOKS

for executives



GENERAL

INTEGRATED DATA PROCESSING AND COMPUTERS. European Productivity Agency, Organisation for European Economic Co-operation, Paris, France, 1960. Available from O.E.E.C. Mission, 1346 Connecticut Avenue, N.W., Washington 6, D.C. 77 pages. \$1.75. Report on a mission to the United States by a group of 25 European experts that spent two months visiting U.S. industrial and commercial organizations, governmental bodies, educational centers, computer service centers, and equipment manufacturers. Their findings constitute a knowledgeable assessment of U.S. and European progress in equipment and in methods of processing and integrating electronic data.

MANAGEMENT INFLUENCE ON THE DESIGN OF DATA PROCESSING SYSTEMS: A Case Study. By Edward L. Wallace. Division of Research, Graduate School of Business Administration, Harvard University, Soldiers Field, Boston 63, Mass., 1961. 259 pages. \$3.00. The subject of this monograph is the decisions one company made regarding the conduct of studies for the design of an automatic data-processing system—the criteria selected for evaluating various systems, the scope of data-processing activities involved, and the personnel and time permitted for system design. An analysis of management's decisions in the light of its needs and the alternatives available sheds some light on how particular choices influence the results ultimately produced by such systems and yields some recommendations for companies confronted by similar situations. The reader need not have a thorough understanding of the systems themselves.

THE STRUCTURE OF AMERICAN INDUSTRY. (Third Edition.) Edited by Walter Adams. The Macmillan Company, 60 Fifth Avenue, New York 11, N.Y., 1961. 603 pages. \$3.95. Essays examining the organization and operation of fourteen different industries in the light of the basic questions about

the value of a free-enterprise economy. The material of the two earlier editions has been brought up to date, and technical language has been eliminated wherever possible.

MANAGERIAL AND INDUSTRIAL ECONOMICS. By John A. Shubin. The Ronald Press Company, 15 East 26 Street, New York 10, N.Y., 1961. 518 pages. \$7.50. This text offers a comprehensive approach for conducting an economic analysis of an industry and a firm and shows how economic concepts and analytic tools mity be employed for solving industrial problems and developing long-range investment programs and business policies. Its analytic framework is formulated in terms of the structural design of the industry and the firm, the environmental influences on business enterprise, projected economic and business trends, and managerial goals and motivations.

ADMINISTRATIVE CONTROL AND EXECUTIVE ACTION. Edited by B. C. Lemke and James Don Edwards. Charles E. Merrill Books, Inc., 1300 Alum Creek Drive, Columbus 16, Ohio, 1961. 795 pages. \$7.95. A compendium of more than 70 readings directed at practicing managers as well as students and designed to provide a balanced, concise, and varied treatment of the many aspects of control. The first major section introduces various definitions of control and discusses control and the administrator, decision-making and the administrator, and some theoretical aspects of control and administration; the next three describe a variety of applications, including the newer tools of applied mathematics; and the concluding section offers some views of the future of administration, especially as it relates to control matters.

SHAPING A NEW CONCEPT OF ADMINISTRATIVE MANAGEMENT: Administrative Services as a Top-Level Corporate Function. (AMA Management Report No. 56.) Administrative Services Division, American Management Association, Inc., New York, N.Y., 1961. 112 pages. \$3.00 (AMA members, \$2.00). Eleven papers describing how a top-level, policy-making administrative function can make an important contribution to corporate profitability and showing how it can be organized, what its appropriate duties are, and how it should be staffed.

TAXATION OF DEFERRED EMPLOYEE AND EXECUTIVE COMPENSATION.

Edited by Henry Sellin. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1960. 720 pages. \$19.50. The 27 chapters comprising this volume are organized into three parts: nonqualified plans, pension and profit-sharing plans, and stock options. Each one provides a complete treatment of its subject, and though the emphasis throughout is on tax aspects, other aspects—especially the economic and administrative—are fully covered. The contributors, who include lawyers, accountants, actuaries, pension planners, and pension administrators, have tried to delineate not only the issues involved in most problems but the principles and procedures helpful in solving them.

BUSINESS BAROMETERS FOR PROFITS—SECURITY—INCOME. (Tenth Edition.) By Roger W. Babson. Harper & Brothers, 49 East 33 Street, New York 16, N.Y., 1961. 366 pages. \$5.00. The 1959 edition of this popular guide has been extensively revised in the light of subsequent events, and the section summarizing the business developments of each year from 1937 onward now runs through 1960.

HOUSEHOLD DECISION-MAKING. (Consumer Behavior, Volume IV.) Edited by Nelson N. Foote. New York University Press, Washington Square, New York 3, N.Y., 1961. 349 pages. \$6.50. Papers and discussions from a conference at which consumption economists, family sociologists, and other specialists concerned with the subject discussed household decision-making regarding changes in family composition, saving and borrowing, allocation and spending, buying (including brand choices), and husband-wife roles and careers. Should be of interest to marketing managers.

MANAGERIAL STATISTICS. (Second Edition.) By Kermit O. Hanson and George J. Brabb. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1961. 342 pages. \$9.25. Although the framework of the first edition, emphasizing the use of statistics in business planning and control, has been retained, the presentation has been reorganized, and new illustrations and textual material have been added. The coverage of the conceptual basis of statistical techniques, for example, has been expanded, as has the material on control charts; and the chapters on tables and charts have been revised, now containing a section on the construction and use of ratio charts. New material also includes questions and problems designed to test the student's understanding of the conceptual framework and his ability to compute statistical measures.

MODERN PRODUCTION MANAGEMENT. By Elwood S. Buffa. John Wiley & Sons, Inc., 440 Park Avenue South, New York 16, N.Y., 1961. 636 pages. \$10.25. By introducing a grounding in analytical method early in the book, this introductory text permits the inclusion of a good deal of new material from management science, industrial engineering, and operations research without placing heavy emphasis on mathematical skill. In addition, it offers a broader definition of "production" than has so far been common, viewing it as the "operations" phase of an activity. The book concentrates on the economics of production and the truly hard-core production concepts.

PROCUREMENT AND PROFIT RENEGOTIATION. Edited by J. Fred Weston. Wadsworth Publishing Company, Inc., 431 Clay Street, San Francisco, Calif., 1960. 224 pages. \$7.50. Papers on the nature of, and reasons for, renegotiation, business experience with the process, procurement policies and practices, the accounting aspects of renegotiation, the use of economic principles to provide profit standards for renegotiation, and possible improvements in policy and procedure.

OCTOBER, 1961

Prentice-Hall, Inc., Englewood Cliffs, N.J., 1961. 438 pages. \$9.00. An introduction to the tools, results, and reasoning of economic theory, aimed at offering the reader both a systematic exposition of microeconomic analysis and an intuitive grasp of the many recent developments in mathematical economics. The discussions of how economic theory is applied to operations research and to business analysis are primarily illustrative, and the emphasis throughout is on the implications and meanings behind the theory and application. A chapter on differential calculus provides all the mathematical background needed for understanding the text.

SERVICES FOR SMALL-SCALE INDUSTRY. International Labour Office, Geneva, 1961. Available from Washington Branch, 917 15th Street, N.W., Washington 5, D.C. 204 pages. \$2.00. A monograph addressed primarily to people responsible for, or interested in, providing advisory, educational, or other services or facilities for small-scale industrialists, particularly in the less-developed countries. The discussion and analysis of the various kinds of aid, and of the problems involved in providing them, are supplemented by a number of examples and case studies illustrating principles, types of organization, and methods that have been used successfully under various circumstances.

OWNERSHIP, CONTROL AND SUCCESS OF LARGE COMPANIES: An Analysis of English Industrial Structure and Policy, 1936-1951. By P. Sargant Florence. Sweet & Maxwell Limited, London, 1961. Available from Quadrangle Books, Inc., 119 West Lake Street, Chicago 1, Ill. 279 pages. \$12.50. To determine who rules the modern big company, Professor Florence has analyzed the records of 1,700 companies responsible for 40 per cent of England's economic activity. His conclusions about the control of these companies, their dividend policies, and the consequent risks and advantages to investors are analyzed, as far as possible, in terms of company size and type of activity and are thoroughly documented in detailed tables.

MARKETING

MARKETING MANAGEMENT. By Kenneth R. Davis. The Ronald Press Company, 15 East 26 Street, New York 10, N.Y., 1961. 824 pages. \$8.00. The major concern of this text is with the problems faced by marketing managers as they make decisions and develop policies. Accordingly, the chief purpose of the text material is to provide a frame of reference for the analysis of business cases, and the 73 cases that accompany this material are written to highlight the conditions under which marketing decisions must be made. The four parts of the book deal in turn with marketing management and decision-making; tools of analysis; functional marketing-management problems, policies, and decisions; and integrating functional marketing-management decisions. An instructor's manual is available.

WHOLESALING IN MARKETING ORGANIZATION. By David A. Revzan. John Wiley & Sons, Inc., 440 Park Avenue South, New York 16, N.Y., 1961. 656 pages. \$10.50. A detailed exposition of the place of wholesaling in the entire marketing organization. The author offers a considerable amount of original material and some new approaches, in his treatment of such basic subjects as the funnel concept of wholesaling, linkages and blockages in channels of distribution, and the various types of wholesale middlemen. His chapter on the selection of a type of wholesale middleman operation introduces certain new quantitative analyses, and his discussion of internal management policies and problems shows how variations in the types of middleman operation produce fundamental differences in organization and policies.

DEFENSE MARKETING IN THE 1960'S: Dimensions of the Market and Guides for Selling in It. (AMA Management Report No. 57.) Marketing Division, American Management Association, Inc., New York, N.Y., 1961. 95 pages. \$2.25 (AMA members, \$1.50). In the first part of this report, representatives of industry and the military describe in detail the size and scope anticipated for the defense market of this decade. In the second part, marketing executives offer some practical guides for successfully managing all the company's sales and marketing resources in that market.

Publications Received

(Please order books directly from publishers)

GENERAL

THE INTERNATIONAL POSITION OF THE DOLLAR. Committee for Economic Development, 711 Fifth Avenue, New York 22, N.Y., 1961. 70 pages. \$1.00.

CHECK SMART. By Larry V. Longhway. Business Protective Association, 617 South West 31 Street, Oklahoma City 9, Okla., 1961. 49 pages. \$1.00.

PROCEEDINGS OF THE 1960 D.B.A. CONFERENCE. Bureau of Business Research, School of Business, Indiana University, Bloomington, Ind., 1960. 80 pages. \$1.00.

THE CONSULTING ENGINEER. By C. Maxwell Stanley. John Wiley & Sons, Inc., 440 Fourth Avenue, New York, N.Y., 1961. 258 pages. \$5.95.

TAX INCENTIVES FOR POLITICAL CONTRIBUTIONS? By Herbert E. Alexander. Citizens' Research Foundation, 245 Nassau Street, Princeton, N.J., 1961. 62 pages. Single copies, 50 cents.

MANAGEMENT ACTION TO PROMOTE BUSINESS STABILITY. Chamber of Commerce of the United States, Washington 6, D.C., 1961, 31 pages. 50 cents.

BETTER MANAGEMENT THROUGH LO-GISTICS RESEARCH. Office of the Assistant Secretary of Defense, Logistics Studies Division, The Pentagon, Washington, D.C., 1961. 35 pages. Gratis.

CASES AND OTHER MATERIALS ON TRADE REGULATION. (Third Edition.) By Milton Handler. Foundation Press, Inc., 268 Flatbush Avenue Extension, Brooklyn 1, N.Y., 1960. 1170 pages. \$14.00.

LOOKING FOR EMPLOYMENT IN FOR-EIGN COUNTRIES. (Fifth Edition.) By Juvenal L. Angel. World Trade Academy Press, Inc., 50 East 42 Street, New York 17, N.Y., 1961, 153 pages, \$8.50.

ECONOMIC GROWTH PROJECTIONS FOR THE DALLAS, FORT WORTH, AND HOUSTON TRADING AREAS. By C. P. Blair. Bureau of Business Research, The University of Texas,, Austin, Tex., 1961. 121 pages. \$2.00.

MARKETING

CHANGES IN THE MARKET STRUCTURE OF GROCERY RETAILING. By Willard F. Mueller and Leon Garoian. The University of Wisconsin Press, 430 Sterling Court, Madison 6, Wis., 1961. 215 pages. \$6.00.

HOW TO INCREASE SALES WITH LETTERS. By Earle A. Buckley. McGraw-Hill Book Company, Inc., 330 West 42 Street, New York 36, N.Y., 1961. 182 pages. \$5.00. CONSUMER BEHAVIOR IN 1961: A SUMMARY REPORT. The Foundation for Research on Human Behavior, 1141 East Catherine Street, Post Office Box 1261, Ann Arbor, Michigan, 1961. 38 pages. \$1,00.

HOW TO SELL APPLIANCES AT RETAIL. By Patrick Monaghan. Fairchild Publications, Inc., 7 East 12 Street, New York 3, New York. 1960. 217 pages. \$7.50.

FINANCE

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